TECHNOLOGY DEPT.

Mar
Volume

NEW EQUIPMENT DIGEST

A Penton Publication

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Use Inquiry Slips—Pages 8 and 104

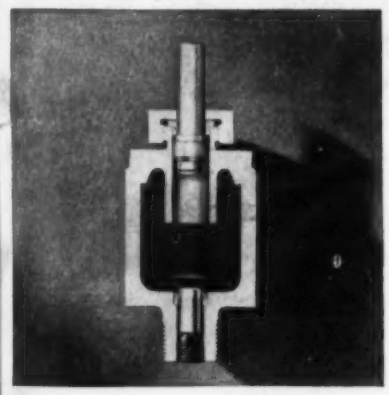
EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

TRAINING & SAFETY MOVIE for industrial truck operators

You'll meet Willy the Cowboy, an industrial truck driver who drives his fork truck like a hot rod, in a 30-minute sound movie titled "Safety Saves." It illustrates the do's and don't's of safe driving and shows the cause of most truck accidents and how to avoid them. The narrator of the film patiently tries to teach Willie the error of his ways, but before he finally learns his lesson, he makes one mistake too many (see illustration). Besides the how-*not*-to-do-it sequences, the movie shows the safe, correct method for operating not only fork trucks, but towing tractors and hand trucks. Reservation forms available from **Clark Equipment Co.,** Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

▲ For more details circle **NED-1 C3** on enclosed inquiry slip ▲

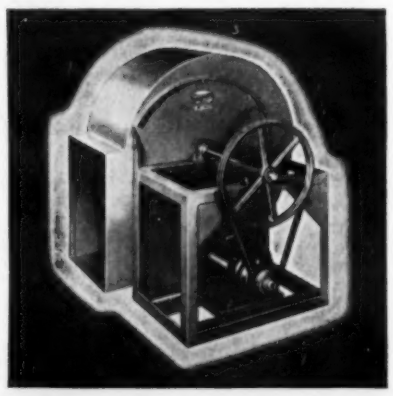
HYDRAULIC STRIPPER pressures can be adjusted



Utilizing the compressibility of special fluids, Wales Hydra-Spring die stripper tends to simplify die design and die making. Stripping pressure is up to 600 per cent greater than coil springs of a similar size. Device uses a fluid called Comproil for compressibility. Stripping pressure can be adjusted by adding or reducing the volume of the fluid which also provides a resilient action produced by conventional springs. Made by **Wales-Strippit Corp.,** 363 Payne Ave., North Tonawanda, N. Y.

▲ For more details circle **NED-2 C3** on enclosed inquiry slip ▲

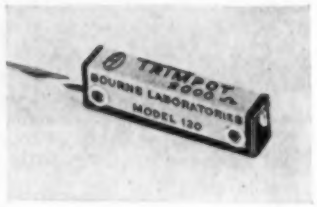
CENTRIFUGAL BLOWERS sizes from 9 to 30 in.



Line of belt-driven centrifugal blowers is equipped with an adjustable motor pulley to provide for variations in speed to meet changing pressure and volume requirements. Sizes from 9 to 30 in. are available with either clockwise or counterclockwise rotation. Housings are easily rotated at time of installation to any of eight discharge positions. Wheels are dynamically balanced. Motors can be furnished to meet any current characteristics and special operating requirements. A weatherproof drive cover is offered for outside installations. Made by **Hartzell Propeller Fan Co.,** Dept. G, 1025 Roosevelt Ave., Piqua, O.

▲ For more details circle **NED-3 C3** on enclosed inquiry slip ▲

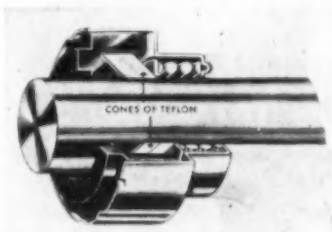
SMALL POTENTIOMETER for precise circuit trimming



Measuring only 9/32 x 5/16 x 1¼ in., model 120 Trimpot subminiature wire-wound potentiometer is designed for precise circuit trimming in miniaturized equipment. Units can be mounted individually or in stacked assemblies. Offered in standard resistances of 250 to 10,000 ohms, device is rated ¼-amp. Made by **Bourns Laboratories,** Dept. 8, 6135 Magnolia Ave., Riverside, Calif.

▲ For more details circle **NED-4 C3** on enclosed inquiry slip ▲

SHAFT SEAL for oil, water, acid services



Beveled Teflon cones utilized in John Crane type 19 all-purpose shaft seal as the flexible member render it suitable for services involving water, oil, corrosives or acids; temperatures from −100 to 450° F; vacuums and pressures to 200 psi; and high shaft speeds. A packaged type unit, it is available in sizes to fit shaft diameters of ¼, ⅜, ½, ⅝ and ¾-in. Bronze, stainless steel and other metals can be specified to meet service requirements or operating conditions. Made by **Crane Packing Co.,** Dept. N-9, 1800 Cuyler Ave., Chicago 13, Ill.

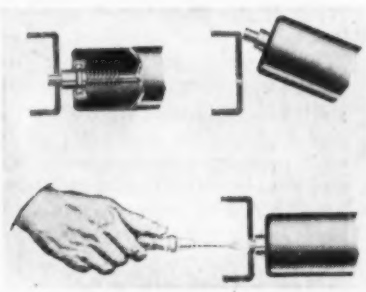
▲ For more details circle **NED-5 C3** on enclosed inquiry slip ▲

HEAT RESISTANT GOGGLES are nontoxic and perspirationproof

For use on jobs where there is extreme heat, AO goggles bearing numbers 4145, 4149, 101-45.8, 101-50 and 3039-50 can be furnished with nontoxic, heat resistant and perspiration-proof vinyl binding on side shields, eye binders and bridges. Binding is permanently stitched on eye binders and bridges and heat sealed on side shields. Goggles can be washed or sterilized as often as necessary. Made by **American Optical Co.,** 1492 Mechanic St., Southbridge, Mass.

▲ For more details circle **NED-6 C3** on enclosed inquiry slip ▲

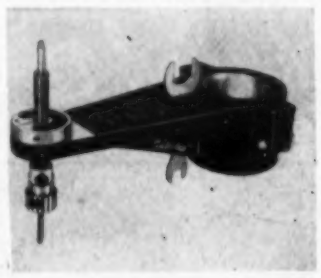
CONVEYOR ROLL SHAFT has snap lock for quick roll change



Roll spacing can be adjusted to suit any type of load on Lamson roller gravity conveyors fitted with the snap lock shaft. Any roll in a gravity conveyor can be removed in a few seconds without disturbing other rolls in the frame. Pressure on shaft end allows roll to be removed without special tools. With pressure released, the shaft snaps back to its normal position. Made by **Lamson Corp.,** 2000 Lamson St., Syracuse 1, N. Y.

▲ For more details circle **NED-7 C3** on enclosed inquiry slip ▲

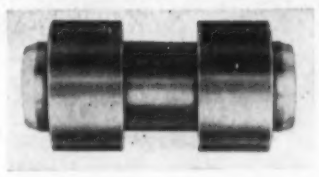
TAPPING ATTACHMENT installed on standard drill presses



Precision rolled-thread lead screw and adjustable split-nut carry the driving load in improved Auto-tap attachment for standard drill presses. Thus, all strain is taken from tap except that required for cutting the thread. Only tools needed for assembling attachment and for interchanging lead screws are an Allen and open-end wrench. Slot and hole in the cast aluminum arm hold these wrenches. Taps are held in Jacobs Rubberflex collets which accommodate sizes from No. 0 to ¼-in. and No. 10 to 5/16-in. Lead screws and nuts are available in pitches from 20 to 80. Made by **Automatic Methods, Inc.,** Room 203, 42 Walnut St., Newark 2, N. J.

▲ For more details circle **NED-8 C3** on enclosed inquiry slip ▲

GEAR COUPLING can be easily disconnected



Hubs can be removed from either shaft without disturbing the mountings of the connected units when spacer type gear couplings are incorporated. Coupling can be disconnected in seconds without wrenches or special tools. It consists of flexible hubs on both the driver and driven shafts. The center unit, or "spacer," has specially designed teeth at either end, cut so that they mate with each sleeve in a spline fit. These connections have no angular or offset flexibility, but allow for end-float. Coupling is available in sizes from ⅞ to 3 in. and in horsepower ratings of 4 to 80 per 100 rpm. Spacer lengths range from 4⅜ to 3⅞ in. Larger sizes and other spacer lengths are offered. Made by **Sier-Bath Gear & Pump Co.,** 9269 Hudson Blvd., North Bergen, N. J.

▲ For more details circle **NED-9 C3** on enclosed inquiry slip ▲

ARMATURE BALANCING WAYS centering, leveling not required

Sensitivity of 0.006-oz-in. by actual torque test is feature of balancing ways designed for precise static balancing of armatures, fans and other light work. Need for centering of work and leveling or setup are eliminated. Work is supported on four hardened and ground discs which revolve on pivot-type bearings. Spindle of bearings have finished coned ends which turn in precision ball bearings. Aluminum end standards are movable on two shafts for different sizes of work, with maximum spread of 12 in. Swing diameter is 10 in., and load capacity is 35 lb. Unit comes apart easily for carrying, and is furnished with dust cover. Made by **Crown Industrial Products Co.,** Woodstock, Ill.

▲ For more details circle **NED-10 C3** on enclosed inquiry slip ▲

SOLENOID PILOT
***Air Control* VALVE**

SMALL ONLY IN SIZE, LARGE EVERY OTHER WAY!

Over 20,000,000 cycles of life may be confidently expected. We believe this valve to be the most rugged ever offered in its class. Valvair's method of sealing prevents wear on seats. Models include 2-way and 3-way either normally open or normally closed. Orifice sizes: 1/16", 3/32", 1/8"; 1/4" pipe tap. Maximum current consumption — 10 watts. For air, water, vacuum, oil or inert gases.

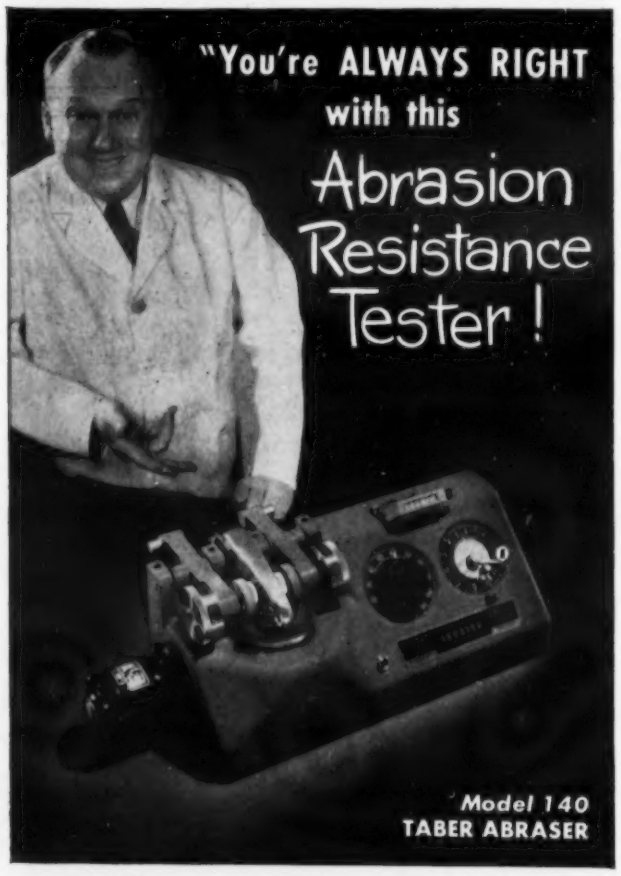
GET NEW BULLETIN "MN-3"

VALVAIR CORPORATION • *Affiliate: Sinclair-Collins Valve Co.* 947 BEARDSLEY AVE., AKRON 11, OHIO

REPRESENTATIVES IN PRINCIPAL CITIES

Rely Upon Valvair — 2-WAY — 3-WAY — 4-WAY

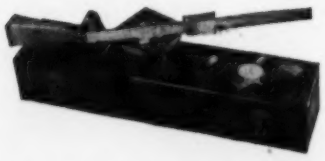
▲ For more details circle **NED-11 C3** on enclosed inquiry slip ▲



Here's the instrument that the whole world accepts as the standard abrasion or wear tester for plastics, paints, linoleum, rubber and textiles. Simulates actual wear conditions during test and gives an accurate numerical index for your report. Send for booklet below for all the facts.

SHEAR HARDNESS and DIAMOND SCRATCH TESTER

Tests quality of plastic material and plastic coated surfaces to resist scratches, digs, scrapes and other physical damage not classed as normal wear. Handles specimens from thin plate to ¼" thickness. Used everywhere for precision perfect tests.



The Taber STIFFNESS GAUGE

Determines both INITIAL and NORMAL stiffness of sheet and wire specimens and gives report from DIRECT READING. Precision shear cuts exact specimens from paper or plastic (up to 20 pt.) to eliminate possible variation in results.

Taber **INSTRUMENT CORPORATION**
SECTION 16
111 Goundry St., North Tonawanda, N. Y.

☐ Please send me booklet on Taber Abraser
☐ Please send me booklet on Taber Hardness and Scratch Tester
☐ Please send me booklet on Taber Stiffness Gauge

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

▲ For more details circle **NED-12 C3** on enclosed inquiry slip ▲

Attention Readers!!!

If you haven't returned a questionnaire to our Circulation Department within the past year and would like to continue receiving NEW EQUIPMENT DIGEST regularly without cost, here's what you should do. Take one of the inquiry slips (they're found opposite pages 8 and 104), fill in the requested information, fold it and drop it in the mail. The Controlled Circulation Audit, of which we are a member, requires that we verify the name, title and company connection of each reader. Will you help us?

A. N. Gregg
EDITOR

LUMINOUS-ACOUSTICAL CEILING provides draftless air diffusion

Draftless conditioned air is provided by the luminous-acoustical ceiling, according to recent tests. Wherever the corrugated Plexiglas diffuser rests on an acoustical baffle or ceiling wall angle, about 1 in. of open area is provided for air to filter through at low pressure and without causing annoying currents of air. It is reported that in most installations duct work and metal diffusers are eliminated with resultant savings up to 40 cents per square foot. Ceiling provides illumination from 55 to 110 footcandles with standard lamp spacing of 36 or 18 in. Noise reduction coefficient of the acoustical baffle and ceiling is 0.40. Made by **F. W. Wakefield Brass Co.,** Wakefield Pk., Vermilion, O.

▲ For more details circle **NED-13 C3** on enclosed inquiry slip ▲

MASTER REPRODUCTION PAPER translucent, yet easy to read from

Users and operators of Ozalid and Bruning type reproduction systems can now obtain paper for master or original sheets that features maximum transparency to ultra-violet light, yet has high optical opacity for easy reading. Called Master White Print, paper takes writing and printing readily, erases well and lies flat without curl. Its surface is clean and uniform. Qualities available include Rhinomaster in 13-lb folio weight, with good translucency and furnished in rolls and sheets; Ripcomaster in 11, 13, 14, 16 and 21-lb folio weights, with slightly better translucency and furnished in rolls and sheets; finally, Parchmaster in 14-lb folio, with the best translucency, but furnished only in sheet form. Made by **Rhinelander Paper Co.,** Dept. NED, Rhinelander, Wis.

▲ For more details circle **NED-14 C3** on enclosed inquiry slip ▲

Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin NE-3

L. B. FOSTER CO.
CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N. Y.

▲ For more details circle **NED-15 C3** on enclosed inquiry slip ▲

G·R·S SYNCROGRAPH

ACCURATE HI-SPEED TIMING 0.0001 to 9.99 SECONDS ±1%

TIMES—High-speed mechanical motions
Voltage and current changes
Relays, contactors, fuses, etc.

EASY TO USE—Suitable for production-line work
Readily operated by unskilled help
Built-in test terminals and switches eliminate need for external test circuits

RUGGED PORTABLE COMPACT

Weight-26 lbs.

13" x 11" x 9" high

Built-in power supply and input switching

Carrying case, set of test leads, and complete instructions included

Write for Pamphlet 727A

SPECIFICATIONS

Ranges and Accuracy: 0-99.9, 0-999, 0-9990 milliseconds, ±1%

Start and Stop: Independent start and stop on make, break, +pulse, −pulse. Sensitivity control on pulse inputs.

Cumulative Timing: Total time of one or more intervals external circuit is closed, or varying input exceeds 5 volts.

Input Resistance: 2.2 megohms.

Display: Direct digital. Switch selection of single readings or accumulated total.

Electronic Counter: 10,000 counts/sec. max. Jack for external pulse input.

GENERAL RAILWAY SIGNAL COMPANY
NEW YORK 17 CHICAGO 3 ROCHESTER 3, N. Y. ST LOUIS 1

▲ For more details circle **NED-16 C3** on enclosed inquiry slip ▲

BROWNING
Roller Chain Drives

SPROCKETS with Split Taper Compression Bushings

No Reboring No Welding

Write for Catalog CD10L

ALL CHAIN AND SPROCKETS IN PACKAGE STOCK

NOW! you have the same simplified BUSHING system for Single and Multiple Groove Sheaves — Rigid and Flexible Couplings — Paper Pulleys and ROLLER CHAIN SPROCKETS.

Only your Browning Distributor offers this service . . . write for the name of the one nearest you!

BROWNING MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY, U.S.A.

▲ For more details circle **NED-17 C3** on enclosed inquiry slip ▲

For faster, simpler moisture measurements

The BECKMAN AQUAMETER

Get greater speed, accuracy, convenience in routine moisture analyses of alcohols, solvents, pharmaceuticals, antibiotics, and other products sold on controlled-moisture basis by using the Beckman Aquameter. Ideal for controlling process-operations where moisture is a key indication!

▶ **Simple, fully automatic** operation eliminates complex, time-consuming problems of other moisture-measurement techniques. Any number of sequential titrations can be completed automatically without re-setting or checking.

▶ **No highly-trained technicians** required. Even inexperienced operators obtain high-precision measurements (titrations reproducible to within ± 0.05 ml.) in minimum time.

▶ **Automatic titration feature** frees operator for other duties between readings (tabulating results, preparing samples, etc.), saving additional time and greatly boosting overall efficiency.

The Beckman Aquameter *applies a new principle to the "dead stop" technique of Karl Fischer methods recommended by U.S.P. It is rugged, dependable, trouble-free. See your nearest Beckman dealer for full details . . . or write for Data File No. 41-6.*

BECKMAN INSTRUMENTS control modern industries

BECKMAN INSTRUMENTS INC.
SOUTH PASADENA 1, CALIFORNIA

Factory Service Branches: Chicago-New York-Los Angeles

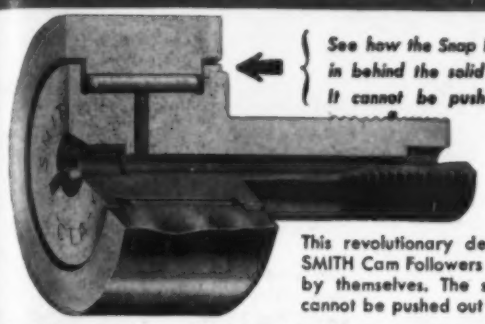
Beckman Instruments include: pH Meters and Electrodes — Spectrophotometers — Radioactivity Meters — Special Instruments

▲ For more details circle **NED-18 C3** on enclosed inquiry slip ▲

It's Unique!

A Snap Ring Retains the Roller in the

SMITH CAM FOLLOWER



See how the Snap Ring fits in behind the solid flange. It cannot be pushed out.

This revolutionary design puts SMITH Cam Followers in a class by themselves. The snap ring cannot be pushed out of place.

It rides securely on the integral inside flange of the stud and prevents displacement or loss of rollers while in operation. The outer race with extra heavy wall and full complement of rollers assures resistance to excessive, intermittent loads.

WRITE FOR DESCRIPTIVE FOLDER WITH SPECIFICATIONS

SMITH BEARING CO.

STATION D, P.O. BOX 1119, TRENTON, N. J.

For more details circle NED-19 C3 on enclosed inquiry slip

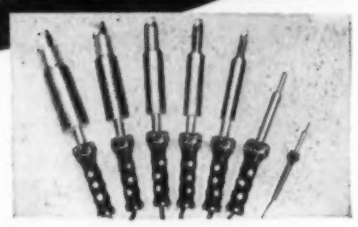
WALL The Safety Line SOLDERING PRODUCTS SINCE 1864

Designed TO TAKE "PRODUCTION LINE PUNISHMENT"

WALL INDUSTRIAL

HEAT-CONTROLLED, THERMOSTATIC ACTION

SOLDERING IRONS



HEAT-CONTROL Thermostatic Action guaranteed for the life of the iron, or double your money back!

Outperform and *outlast* any soldering irons you've ever tried! Exclusive thermostatic action *(without fragile thermostats)* controls heat so perfectly that fusing and tip-burning are held to a minimum. Iron stays at "on-the-button" production heat all day long. Free catalog!

OVER 20,000,000 SOLDERING PRODUCTS SINCE 1864

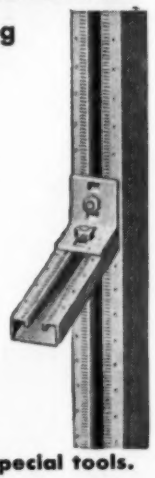
WALL MANUFACTURING CO. GROVE CITY • PENNSYLVANIA

For more details circle NED-20 C3 on enclosed inquiry slip

Announcing...

MULT-A-FRAME

World's *only* fully-locking steel framing material!



Frames, hangs, supports anything easier, faster, at low cost. Three basic parts give skyscraper strength without bulk.

Standard and heavy-duty channels with Safe-Locking Fittings for every job. Over 1000 and ONE uses. For racks, inserts, platforms, scaffolds. Fully adjustable, completely salvable.

• **No welding, drilling or special tools.**

Send for catalog and samples. Write: Dept. 105

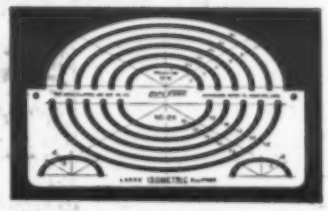
MULT-A-FRAME DIVISION
2200 Franklin Street
Detroit 7, Michigan

Ainsworth Manufacturing Corporation

*Trade-mark. Patents Pending.

For more details circle NED-21 C3 on enclosed inquiry slip

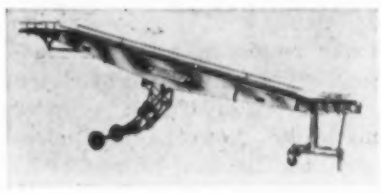
ISOMETRIC ELLIPSE TEMPLATE
cutouts have pencil allowance



Up to 25 ellipses, covering 1½ to 2 in. and 2 to 7 in. in ⅛ and ¼-in. increments, respectively, can be drawn with the No. 124 isometric ellipses template. Dimensions refer to isometric axes and actual size along large axes is somewhat larger, i.e. 8½ in. for the 7-in. ellipse. Template is made of 0.080-in. mathematical quality plastic and cutouts are precision milled and have pencil allowance for accuracy. Size is 10 x 6 in. and price is $5. Made by **Rapidesign, Inc.**, P. O. Box 592A, Glendale, Calif.

For more details circle NED-22 C3 on enclosed inquiry slip

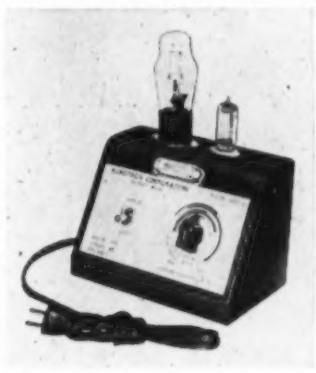
PORTABLE CONVEYOR
accessories increase versatility



Gravity or powered discharge sections, gravity or powered feed sections and support stands for floor-to-floor applications without undercarriages are accessories for Belt Versaveyor portable industrial conveyors. These may be used alone on the unit, or in combination with others. Couplings for connecting conveyor into gravity or powered conveyor systems and guide rails are also available. Conveyor is also used with wheel or caster equipped undercarriages. It is designed for stacking and storing or loading and unloading bags and boxes. Made by **Belt Corp.**, 7500 Stahl Rd., Orient, O.

For more details circle NED-23 C3 on enclosed inquiry slip

WELDER ANALYZER
checks on Thyratron control tubes

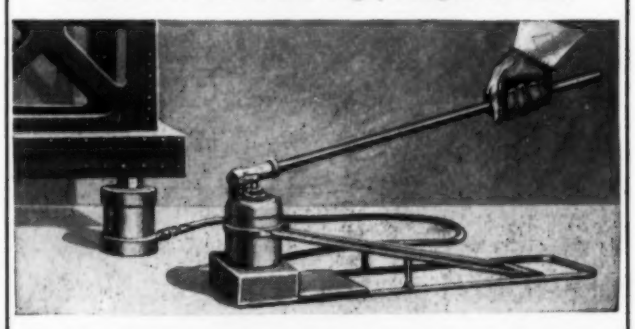


Filament continuity, cathode emission, control grid characteristics and shield control characteristics, as well as excessive arc drops within the tube and internal shorts can be checked by this electronic analyzer for Thyratron control tubes. Measuring 4 x 4 x 6 in., the instrument incorporates a potentiometer knob with self-explanatory indicating dial and neon indicating lamp. It simulates actual operating conditions of welder timers and is applicable for analysis of 2050, 502A, 2D21 and 2051 Thyratron tubes. Made by **Robotron Corp.**, 21310 W. Eight Mile Rd., Detroit 19, Mich.

For more details circle NED-24 C3 on enclosed inquiry slip

It Can Lift 30 Tons 2 Inches!

Closed it is 4½ Inches High, Weighs 38 Lbs.



The "Lo-Hite" Remote Controlled Hydraulic Jack with detached, independent pump

This little jack was designed for heavy lifting in places where a jack handle cannot be operated. The independent pumping mechanism is connected to the jack by an 8-foot flexible rubber hose permitting operation of the jack from any convenient plane—vertical, horizontal, inverted or inclined. Two heat-treated steel tops, one pointed, the other radius, included with the kit are interchangeable and provide versatility in jacking operations.

Safe, sturdy, built for trouble-free service, the Duff-Norton "Lo-Hite" hydraulic jack is winning new friends every day. Write to the world's oldest and largest manufacturer of lifting jacks for bulletin AD-3-N, The Duff-Norton Manufacturing Co., P. O. Box 1889, Pittsburgh 30, Pa. Canadian Plant—Toronto 6, Ontario.

DUFF-NORTON JACKS

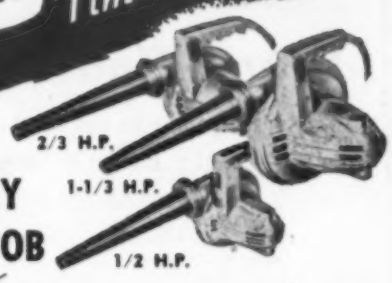
"Giving Industry A Lift Since 1883"

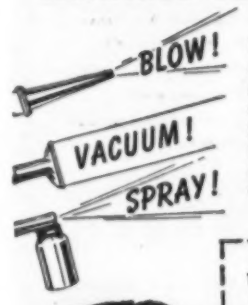
For more details circle NED-25 C3 on enclosed inquiry slip

IDEAL "Hand Type" CLEANERS

Cut Cleaning Time and Costs!

3 MODELS ...for EVERY CLEANING JOB





For easier, faster maintenance or production cleaning jobs — on machinery, stock bins, scrap pick up — there's an IDEAL "Hand-Type" Cleaner to meet your needs exactly — to save you money! Three great models, all built to rugged, real industrial standards. Get today's top cleaner value — get IDEAL!

Sold Through Leading Distributors

TRY ONE FREE!

IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois

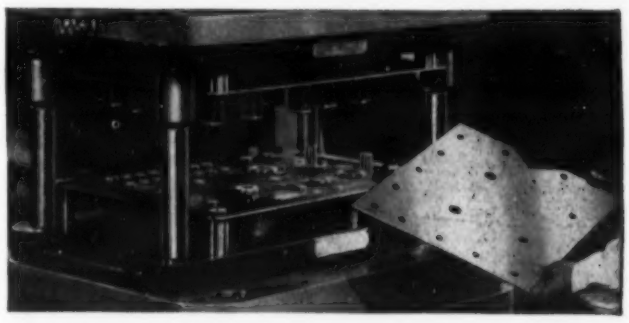
Please give us FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner for our plant.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE____

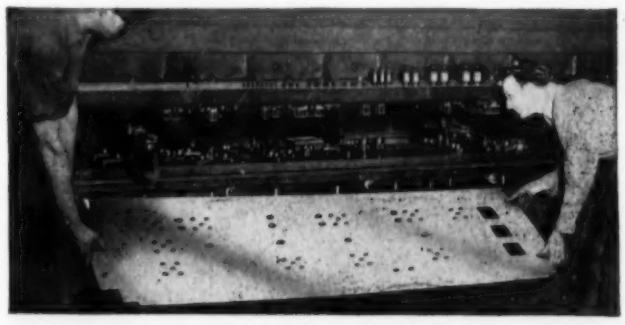
For more details circle NED-26 C3 on enclosed inquiry slip

New • Fast • Proven

LOW COST METHODS for PERFORATING and NOTCHING SHEET METALS



Whistler *MAGNETIC* Dies at work in large inclinable press. Magnetized retainers hold the units. No bolting required. A fast, economical method in making up a punch and die set for short or long runs. All parts re-usable.



Whistler *ADJUSTABLE* Dies on perforating and notching job, using Tee slotted die set. With Whistler Adjustable Punch and Die units production starts within hours instead of weeks. Last minute job changes made quickly.

REDUCE DIE COSTS... All units and parts are interchangeable and used repeatedly in different arrangements. **INCREASE PRESS PRODUCTION**—*Down time is minutes as compared to hours for changeover.* For precision work in all types and sizes of presses. **START PRODUCTION AT ONCE.** Pierce materials up to ¼" thick mild steel. Standard sizes and shapes available up to 3 inches. Special sizes to order.

Here are the complete details with prices and application illustrations. Send for these catalogs. No obligation.

NAME_____
FIRM_____
ADDRESS_____
CITY ZONE STATE

S. B. WHISTLER & SONS, Inc.

Adjustable, Magnetic, Custom and Cam Dies for all Industry

750 Military Road Buffalo 23, New York

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STEEL

Every Kind

Some steel products are in short supply but over-all stocks are still large, diversified

NEARBY STOCKS INCLUDE:

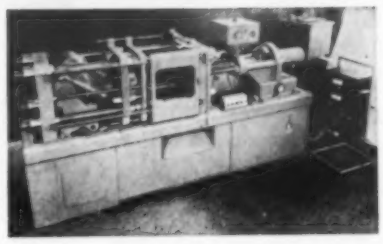
BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U. M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco Spokane, Seattle

For more details circle NED-28 C3 on enclosed inquiry slip

PLASTIC MOLDING MACHINE
short-stroke hydraulic die closer aligns molds and eliminates flash



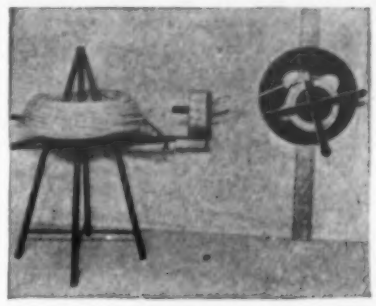
Perfect injection molded plastics parts are produced regularly on this 200-ton No. 6E molding machine which plasticizes up to 60 lb of material per hour. Features include multiple packing of injection cylinder, a quick mold release for nozzle clearance and the Hydra-Lock method of clamping molds together.

Machine uses a straight bore, externally heated, 13,000-watt, thermostatically controlled injection cylinder. Plastic enters by gravity from a 60-lb capacity hopper and is packed into heating section by multiple injection strokes. Injection pressures are adjustable from 0 to 20,000 and more psi.

Clamping mechanism consists of toggle linkage which advances and locks molds to within a fraction of an inch of each other. Incorporated in platen structure is a 16-in. diameter hydraulic cylinder which, actuated automatically, does the final closing of the molds and supplies the final locking pressure of 200 tons. This action is fast, automatic and interlocked for safety. Even difficult-to-mold products such as wall tile are produced without flash and with minimum of scrap. Price of basic machine is $15,000. Made by **Lewis Welding & Engineering Corp.**, Interstate & Cross Sts., Bedford, O.

For more details circle NED-31 C3 on enclosed inquiry slip

SAVE HOURS . . . SAVE DOLLARS with HYKON WIRE HANDLING EQUIPMENT



New Low-Cost Wire Measurer

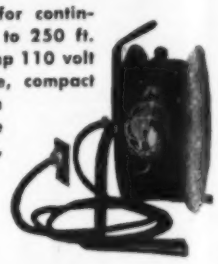
Unit SRM-18 features Storeroom Reel, Wire Meter and Take-up Reel in compact, all-welded, portable unit. Outer spokes on take-up reel unlock instantly. Meter accuracy guaranteed. Handles up to 1 in. diam. wire; registers to 1000 ft.

Multiple Wire Reels

Pay out wire fast—with no kinks, no tangles, no waste on a Hykon Reel. Adjustable. Two sizes.

Portable—Light Weight Extension Cord REEL

Just plug it in for continuous current, up to 250 ft. away. Has 30 amp 110 volt collector for safe, compact operation. An ideal all-purpose industrial unit, priced right.



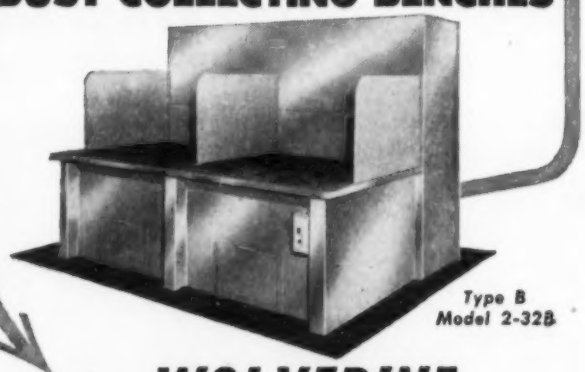
Hykon

New Catalog—write for your free copy today.

MFG. CO. BOX 923M, ALLIANCE, OHIO

For more details circle NED-34 C3 on enclosed inquiry slip

New DOWN DRAFT DUST COLLECTING BENCHES



by WOLVERINE

Work on open grating working surface is surrounded by downward moving stream of air . . . dust from grinding, polishing or sanding operations is pulled downward through grating . . . heavy-duty industrial viscous filters in rear compartment remove dust from air stream and axial flow fan in top of rear compartment discharges air vertically into the room, or when required by local ordinance, discharges to outdoors through duct work. Solves the dust problem where hand grinders are used because of better dust collection due to higher down draft velocity.

Write for descriptive bulletin., Dept N.

WOLVERINE EQUIPMENT CO.
31 MAIN ST., CAMBRIDGE 42, MASS.

For more details circle NED-29 C3 on enclosed inquiry slip

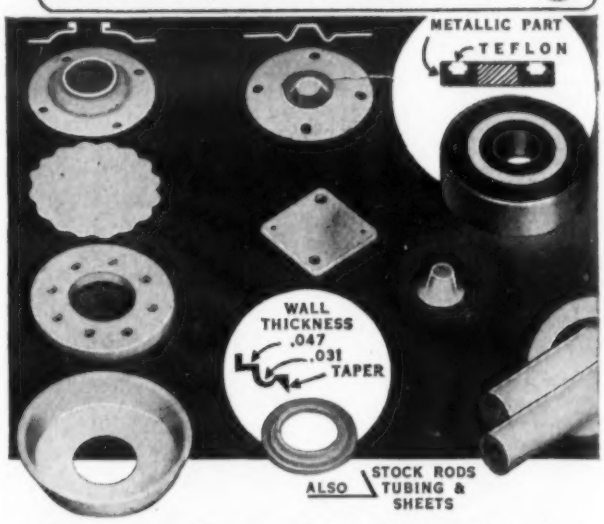
PHOTOCOPYING CAMERA
reproduces 720 pieces per hour

Up to 720 documents per hour can be photocopied on continuous roll paper by this Tupper-Peerless copy camera. Equipment photographs one side of letters and documents from 8½ x 11 in. to 8½ x 14 in. in size and both sides of 5 x 8-in. file cards, together with 1 x 8-in. identification strip. Camera is housed in 18 x 50 x 52-in. aluminum cabinet mounted on rubber-tired truck with 50 ft of cable. Cycle of operation is only 5 seconds. Camera is daylight loading, and exposed paper enclosed in light-tight receiver can be removed in daylight for transporting to darkroom. Roll can be cut at any point without loss of photocopy paper. Paper advance mechanism can be set for 11 or 14-in. documents to prevent waste. Made by **Peerless Photo Products, Inc.**, Dept. NED, Shoreham, L. I., N. Y.

For more details circle NED-32 C3 on enclosed inquiry slip

GOT A TOUGH ONE IN TEFLON?

CONTACT SPARTA, SPECIALISTS IN TEFLON MOLDING



Above, some recent Teflon moldings by Sparta. Represented are Diaphragms, Special Washers, Discs, Seals and Cup Seals with difficult undercuts, varying wall thicknesses, other physicals formerly thought impossible to mold in Teflon.

Perhaps YOU can improve products, processes and profits with Teflon MOLDED TO YOUR SPECIFICATIONS. Sparta offers painstaking cooperation, no obligation . . . just write or call

SPARTA HEAT TREAT CO. } PLASTICS DIVISION, EAST SPARTA, OHIO PHONE EAST SPARTA 5651 (CANTON, OHIO EXCHANGE)

For more details circle NED-35 C3 on enclosed inquiry slip

Heat it BETTER and FASTER for LESS!

USE CHROMALOX Electric HEATING UNITS for efficient and accurate heat to fit your EXACT needs!

Chromalox Heaters give you fast, uniform, "on the spot" heat at low initial cost and low operating costs in hundreds of applications. They come in types, sizes and capacities to fit every specific production need. Check their time and money saving advantages now! On-the-job engineering service without obligation.

For details on Chromalox Heaters

Send for the valuable, informative Catalog 50. It lists many of the more than 15,000 types, sizes and ratings of Chromalox Electric Heaters for hundreds of uses.

See Chromalox Radiant Heaters Advertisement, Page 11

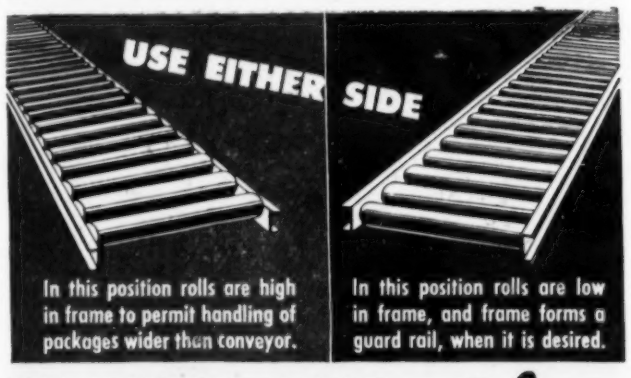
EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

See other Ad. on pg. 69

CHROMALOX IB-5

ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-30 C3 on enclosed inquiry slip



ONE of MANY practical features of Logan

STOCK ROLLER CONVEYOR

Shown above is one of the features of Logan Stock Roller Conveyor. Other features include (a) immediate shipment (b) available in several sizes (c) both straight and curved sections can be furnished (d) both stationary and portable supports available.

Use the coupon for literature.

Logan CONVEYORS
LOGAN CO., 215 Cabel St.
LOUISVILLE, KY.

LOGAN CO., LOUISVILLE, KY.
☐ Send literature on Stock Conveyors
Mr.
Firm
Address

For more details circle NED-33 C3 on enclosed inquiry slip

Now! a really SAFE high pressure steam hose

Quaker IRONSIDES STEAM HOSE

Safer! Glass for insulation, steel wire for protection. Withstands high pressures—saturated steam to 200 lbs., superheated steam to 388° F.

Stronger! Tremendous strength is obtained by the combination of steel wire braid and glass cord. Firmly bonded, tube will not separate or collapse.

Easier Handling! Lighter weight, greater flexibility assure greater handling ease. Kinkproof!

A QUAKER *exclusive!* Real insurance against the hazards of bursting. An ideal combination of high insulation and toughness. COSTS NO MORE than wrapped fabric hose. Carried in all branch stocks. Call or write for full details today.

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
Dept. D, Philadelphia 24, Pa.
Branches in Principal Cities

For more details circle NED-36 C3 on enclosed inquiry slip

With R-B equipment you save "time on the board" because you are working with a standardized tooling concept. You can select either a catalog item or design specials to meet your sheet metal piercing specifications. The same basic design principles inherent in R-B standard punches, die buttons and retainers can be applied to all your special requirements.

Tool standardization is the basis for efficient and economical production. With R-B you get the accepted standard of the sheet metal industry—in standard design features that save in engineering, die construction and operation.

For further information on how you can save time in die designing write to—

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
DEPT. 64 • 12629 BURT ROAD • DETROIT 23, MICHIGAN

For more details circle **NED-37 C3** on enclosed inquiry slip

. . . nothing too small . . .
nothing too LARGE
for *FASTAX*. . . world's leading high-speed motion picture cameras

Our work in all fields with users of high-speed photographic equipment gives us the opportunity to see and study the operation of FASTAX cameras and equipment in the field . . . makes possible the development of finer high-speed FASTAX cameras and auxiliary equipment. That is why FASTAX has world-wide acceptance and is first choice of designers and engineers everywhere for helping solve mechanical problems.

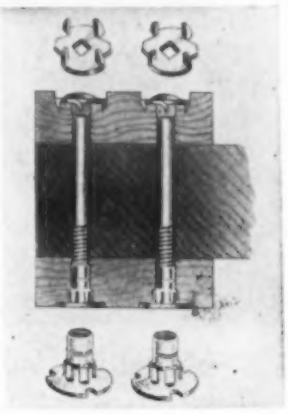
A consultation service is available to users of high-speed photography. **WRITE.**

Wollensak
OPTICAL COMPANY, ROCHESTER, N. Y.

• RAPTAR
• RAPAX
• FASTAX

For more details circle **NED-38 C3** on enclosed inquiry slip

NUTS & WASHERS
used in assembling wood products



Pallets, bins, crates, trusses and other wood products can be assembled with only one drilling operation when Teenuts (combined nut, plain washer and lock washer) and Torque Washers are used. Teenuts are available for installation by spanner, socket or Allen wrench. Friction lock in the barrel of the nut prevents the bolt from becoming loose from vibration. At least 8-13 in.-lb of torque is required to install or remove bolt. Both bolt and Teenut can be reused. Carriage bolt Torque Washers (top) have prongs which are forced into wood to prevent turning of the bolt when removal is necessary and to keep the bolt head from being forced into soft woods. Distributed by **Frank L. Robinson Co.,** 508 Sixteenth St., Oakland 12, Calif.

For more details circle **NED-39 C3** on enclosed inquiry slip

WELDING HELMETS
of compression molded plastic

Strength, moisture and high heat resistance are attributes of No. 700 series of one-piece compression molded plastic welding helmets. They are made of thermosetting Fiberglas reinforced with polyester resin. They will not warp and have an easily cleaned and smooth sterilized surface. New No. 3 headgear, standard on this helmet line, is also made of plastic and will not absorb moisture. It conforms to any head shape and can be cleaned in antiseptic solution or soap and water. Also standard is S-type four-position adjustable helmet stop. Four insulated glass holders, all impact resistant, are available as are four helmet types with different glass holders and cover plates. Made by **American Optical Co.,** 1492 Mechanic St., Southbridge, Mass.

For more details circle **NED-40 C3** on enclosed inquiry slip

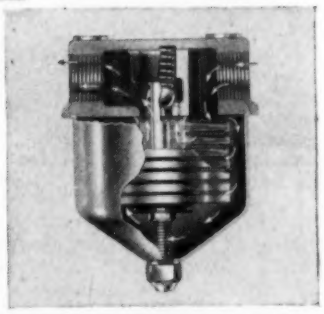
DO YOU KNOW? The first private business devoted exclusively to the design and manufacture of noncircular gears has been established. Basis of production is the automation of standard gear shapers utilizing motion picture film. Service will consist of engineering and manufacturing aid to those requiring noncircular gears. Offered by Dr. Fred H. Cunningham, 56 Hubbard Ave., Stamford, Conn.

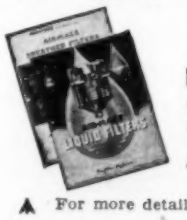
For more details circle **NED-41 C3** on enclosed inquiry slip

Two AIR-MAZING ways to keep dirt out of your hydraulic systems

1 AIR-MAZE BREATHER FILTERS for hydraulic system vents keep out airborne dust and dirt. Oil-wetted wire baffles trap the dust, also act as efficient backfire flame and spark arrester. All metal, cleanable, vibration-proof filter media. Wide range of types and sizes.

2 AIR-MAZE LIQUID FILTERS are permanent, all-metal, cleanable. Many times more effective filtering area than in conventional cylindrical filter cartridges. Special screen media available in various mesh sizes. Capacities: 1.7 gpm to 720 gpm.

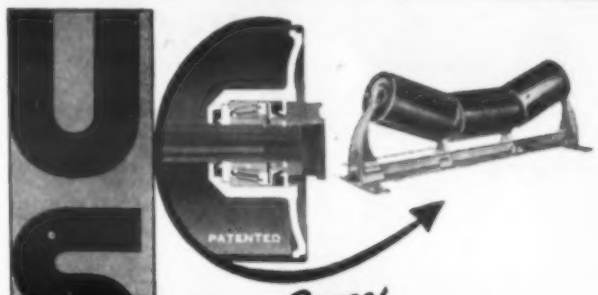




FREE BOOKLETS! Write today for copies of new booklets on Air-Maze liquid filters and Air-Maze breather filters.

AIR-MAZE CORPORATION
25001 Miles Rd. • Cleveland 28, Ohio

For more details circle **NED-42 C3** on enclosed inquiry slip



USE

Saves Grease! Saves Labor! Saves Belts!

If You Use Belt Conveyors You Need

CONTINENTAL IDLERS

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• TIMKEN BEARINGS
• PRE-LUBRICATED

Write for Bulletin NED-116

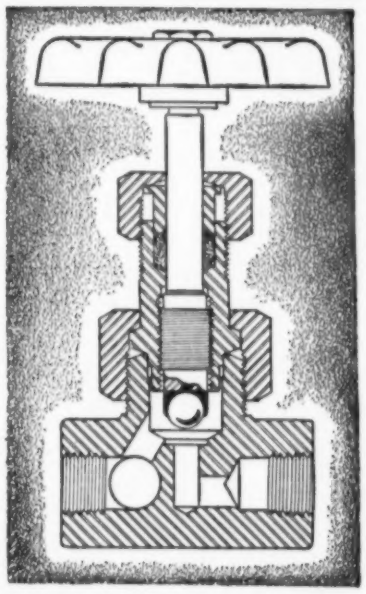
ALL SIZES! ALL TYPES! CG-5301

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

For more details circle **NED-43 C3** on enclosed inquiry slip

NEW!

BALL VALVE
for liquids, gas or steam



Here's a radically-new forged steel valve for general heavy industrial use. Can't leak . . . practically never wears out . . . costs little or no more than ordinary valves!

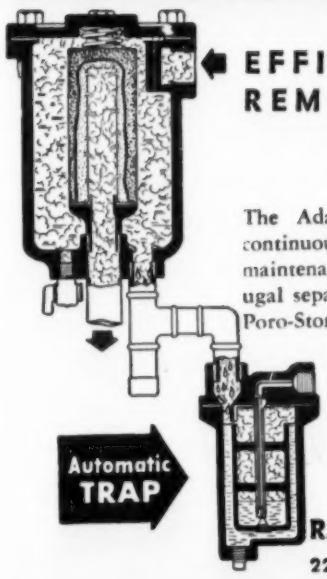
In place of a disc or plug, the new Foxboro Ball Valve has a retained, free-rolling stainless steel ball that exposes new surface to seat at every closing.

Foxboro Ball Valves handle pressures to 3000 psi. Available in straight-thru and angle types. Two or four connections to simplify piping. ¼" size. Write for detailed folder. **The Foxboro Company, 663 Neponset Avenue, Foxboro, Mass., U.S.A.**

FOXBORO INSTRUMENTATION
REG. U.S. PAT. OFF.

For more details circle **NED-44 C3** on enclosed inquiry slip

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES:
OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 176.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

For more details circle **NED-45 C3** on enclosed inquiry slip

Moly-sulfide
A LITTLE DOES A LOT

is proving effective even where other lubricants have failed

Moly-sulfide, a solid-film lubricant, is proving so useful in difficult friction applications that new uses are found daily. 154 cases of how serious problems were solved are described in our booklet.

Your own problems may be like those described. Write for your copy of this booklet.

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N·Y

MS-8A

For more details circle NED-46 C3 on enclosed inquiry slip

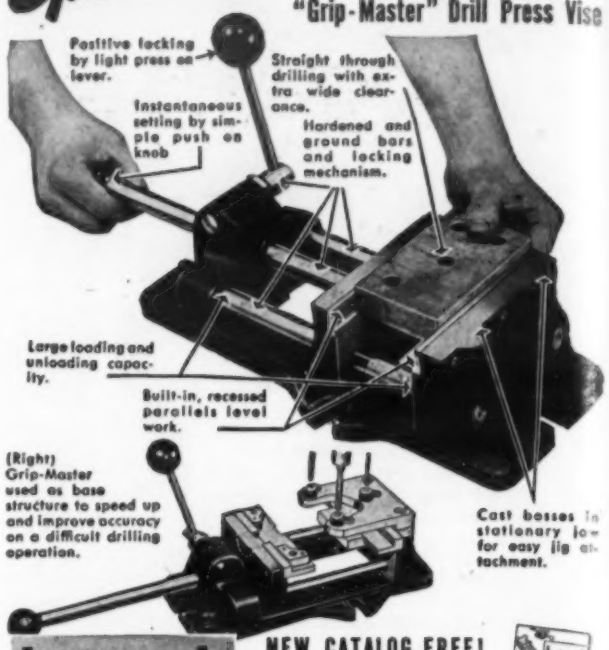
FLOOR MAINTENANCE MACHINE
combines functions of floor sweeper, vacuum cleaner and power blower

Plant maintenance operations are simplified with this 3-Way Maintainer. It is designed to enable the maintenance man to sweep floors mechanically from six to fifteen times faster than he could with a broom, and also provides suction system for picking up dust and dirt from out-of-the-way places as well as a blower system for dislodging dust from machines, equipment and other places that are difficult of access.

Two standard sizes are available with sweeping widths of 24 and 36 in. First sweeps 20,000 to 30,000 sq ft per hour and second, 30,000 to 45,000 sq ft per hour, when used on continuous duty. Machine can be stopped at any point within convenient reach of areas to be cleaned by suction or blower systems. Standard equipment includes pick-up wand, extensible hose and blowdown tool. These are carried on machine, ready for use. Made by **Wilshire Power Sweeper Co.**, 526 W. Chevy Chase Dr., Glendale 4, Calif.

For more details circle NED-48 C3 on enclosed inquiry slip

Speed-up OPERATIONS with heinrich
"Grip-Master" Drill Press Vise

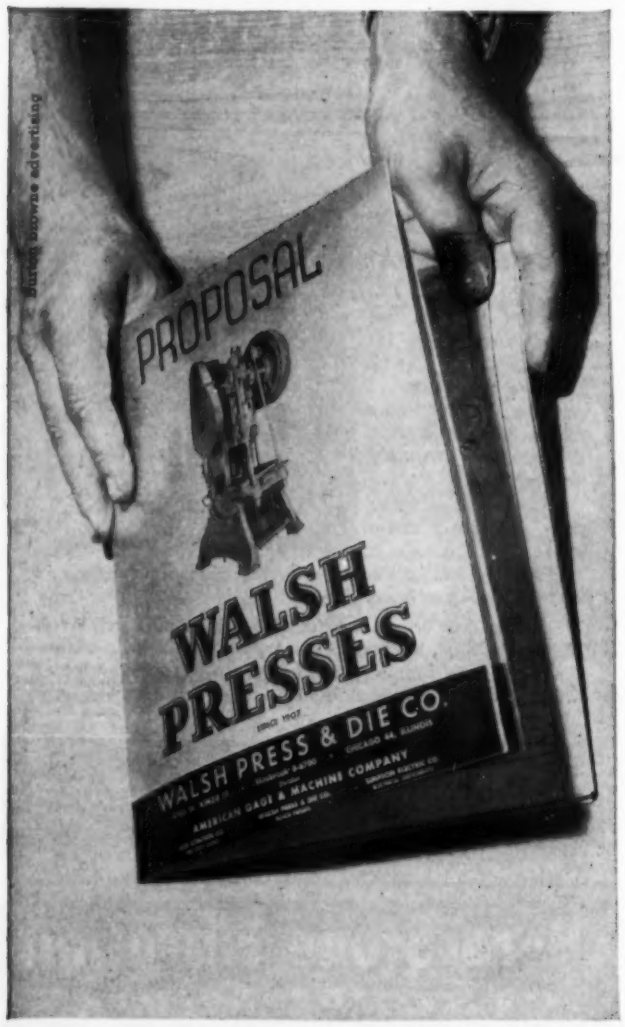


heinrich TOOLS, INC.

NEW CATALOG FREE!
Be sure you have a complete Heinrich Tool Catalog in your files. Your copy will be sent free upon request.

Dept. 303-C • RACINE, WISCONSIN
Drill Press Vises • Fixture Locks • Nibblers
Punches • Rod Cutters

For more details circle NED-51 C3 on enclosed inquiry slip



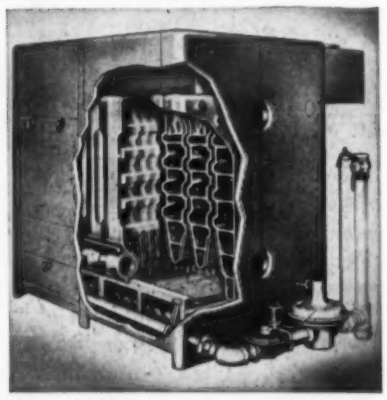
WALSH ENGINEERING SERVICE

With a stamping problem, just send a sample or blueprint of the part to the WALSH Engineering Department. You will receive an analysis giving complete specifications for the most efficient and economical equipment. There is no obligation to buy equipment from Walsh. This counseling service is free to the metalworking profession.

WALSH PRESS AND DIE CO.
DIVISION OF AMERICAN GAGE AND MACHINE CO.
4727 W. Kinzie St. • Chicago 44 • EStebrook 8-6700

For more details circle NED-47 C3 on enclosed inquiry slip

HIGH CAPACITY BOILERS
gas-fired units in 18 models



Eighteen sizes ranging in net ratings from 1770 to 12,950 sq ft of steam radiation and from 3010 to 20,720 sq ft of hot water radiation are included in the 66 series of gas boilers. Boilers feature high capacity per section, thus reducing the number of sections required, minimizing floor space and reducing the necessity for multiple boiler installations. Cast iron sections are connected with three push nipples. Well-known automatic controls are furnished with the units, adaptable for natural, mixed, manufactured and liquid petroleum gases, as well as LP gas-air mixtures. The boilers incorporate draft diverters, heavy gage steel jackets and glass wool insulation. All units have AGA seal of approval, conform to ASME boiler code and carry IBR ratings. Made by **National Radiator Co.**, 301 Central Ave., Johnstown, Pa.

For more details circle NED-49 C3 on enclosed inquiry slip

FAMOUS ERA BEAM COMPASS

A HIGH GRADE INSTRUMENT

Used by Leading Draftsmen and Designers for INKING and PENCIL DRAFTING

A fine precision tool. Hair-line adjustment quickly made and maintained by spring-loaded knurled thumb rollers. No screws or clamps. Lead expeller for easy control of lead length. Slides instantly interchangeabue to any beam length. Made of anodized aluminum, stainless satin finish. Beam lengths from 7" to 100".

Combination Square TRAMMEL HEADS

Make Accurate Compass, Height Gage Outside and Inside Calipers

Heads chrome plated, screw parts protected by cadmium plating, scriber points made of hardened tool steel. Perfect for work on wood, plastic, sheet metal, linoleum, die or tool layout. Hundreds of uses. Comes complete with plated head, scriber points, pencil tips, special caliper points.

WRITE FOR LITERATURE

ENGINEERING RESEARCH ASSOCIATES, INC.
3475 East Nine Mile Road Hazel Park, Michigan

For more details circle NED-52 C3 on enclosed inquiry slip

UNBREAKABLE PLAXPAK® CARBOY

- Meets ICC-1-F specifications.
- Unbreakable, even at sub-zero temperatures.
- Lower shipping costs; simplifies handling.

SAFETY!

Plaxpak polyethylene carboys are blow-molded in one piece and are inert to most chemicals. Unbreakable and light in weight, they simplify handling, shipping and storage of acids and other chemicals.

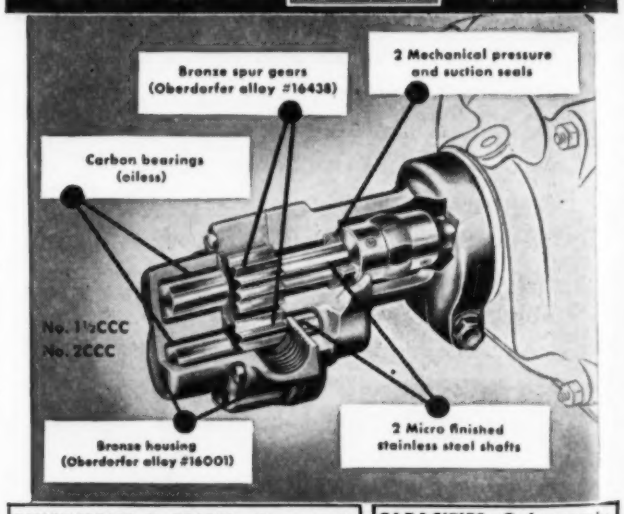
Write for complete details.

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
WEST HARTFORD, CONNECTICUT
District Sales Offices: New York, Philadelphia, Chicago and other principal cities.
In Canada: Plax Canada, Limited, Toronto

PLAX FOR PLASTICS — NOT SUBSTITUTES IMPROVEMENTS

For more details circle NED-50 C3 on enclosed inquiry slip

Two close coupled motor driven OBERDORFER BRONZE PUMPS



DIMENSIONS & PRICES — Pump only

Pump No.	Ht.	Width	Lgth.	List Price
1½CCC	2⅞"	2 11/16"	4¾"	$20.00
2 CCC	3 11/16"	2⅜"	4⅞"	22.50

Complete units with ⅓ hp. 110 volt AC thermal overload motors (motor standard, but specially machined for pump mounting). Motor price $13.50 net.

CAPACITIES — Gal. per min. 1725 rpm — lbs/sq.in.

Press.	1½ CCC	2 CCC
0 lbs.	2.00 gal.	4.00 gal.
25 lbs.	1.83 gal.	3.67 gal.
50 lbs.	1.67 gal.	3.17 gal.
75 lbs.	1.58 gal.	2.83 gal.
100 lbs.	1.50 gal.	—

See our catalog in Sweet's PRODUCT DESIGN File

Oberdorfer Foundries, Inc., Ind. Pump Div.
233 Thompson Rd. Syracuse, N. Y.

For more details circle NED-53 C3 on enclosed inquiry slip

How to Plan, Lay Out and Specify Your PUSH-PULL CONTROL System

A NEW MANUAL FOR DESIGN ENGINEERS

Here is a useful and instructive manual by a recognized leader in push-pull control systems for aircraft and industrial applications. Clearly illustrated... an informative treatise on transmission of motion with push-pull systems. For your free manual, write:

Simmonds
AEROCESSORIES, INC.
Tarrytown, N. Y.

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New PRECISION CASTING Movie Available

22 Minute Full-Color—Available FREE

Here is the story of precision investment casting... the revolutionary Microcast Process that started a whole new metalworking industry. In this film you'll see the complete Microcast story... its development... the step-by-step process for mass producing investment castings... how it cuts costs and produces parts and components that are stronger, longer lasting. If you're a design engineer or a metallurgist you'll want to see this exciting film.

For full information write to:

MICROCAST PRECISION CASTINGS PROCESS

microcast®

MICROCAST DIVISION • Austenal Laboratories, Inc.
224 East 39th Street, New York 16, New York

For more details circle NED-55 C3 on enclosed inquiry slip

For 30 Years—EXPERTS AT STAMPINGS IN SMALL LOTS SHORT RUNS

FROM TEMPORARY DIES COSTING ONLY 15% OF CONVENTIONAL DIES.

DAYTON ROGERS Manufacturing Company

Minneapolis 7, Minn.

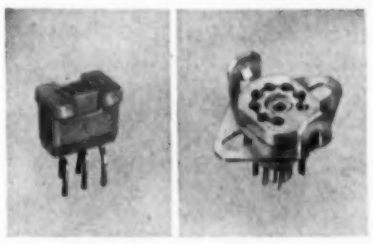
For more details circle NED-56 C3 on enclosed inquiry slip

SOLDER-TINNING COMPOUND incorporates fast-acting flux

Dip tinning of transformer leads, dip soldering of commutators, assembling and wiring operations where soft solders are applicable are some of the jobs which are facilitated with TE-400 Electro-Tin. This material is a compound of fast-acting organic fluxing agents in which are dispersed finely divided tinning materials. Parts to be soldered are coated with compound by dipping or painting. They are then immersed into hot metal bath. Heavy paste form is available also. Made by **Fusion Engineering,** Dept. N, 4504 Superior Ave., Cleveland 3, O.

For more details circle NED-57 C3 on enclosed inquiry slip

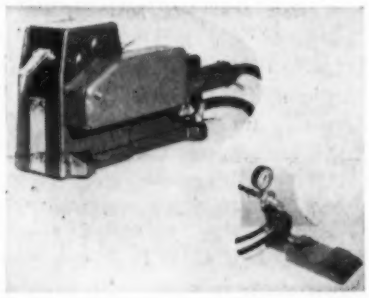
SUBMINIATURE TUBE SOCKETS made in rectangular and round types



Five, six, seven and eight-pin types of rectangular subminiature tube sockets are available for various applications, as is a line of round type sockets with or without saddles. Rectangular models have contacts in two lengths for conventional and printed circuit application. Contacts are of beryllium copper that is silver plated, tin dipped or gold flash over silver. Bodies are low-loss mica-filled phenolic, and saddle is nickel plated brass. Made by **Hugh H. Eby, Inc.,** 4732 Stenton Ave., Philadelphia 44, Pa.

For more details circle NED-58 C3 on enclosed inquiry slip

PNEUMATIC TAPE DISPENSER handles pressure-sensitive tapes



Dispensing power of this automatic air-operated pressure-sensitive tape dispenser can be adjusted to varying requirements of different tapes. Controlled by foot lever, dispenser delivers correct length of tape which operator can grasp without taking his or her eyes from work. Delivery of predetermined lengths eliminates waste of tape. Made by **Hackett Brothers, Inc.,** 200 W. Main St., North Manchester, Ind.

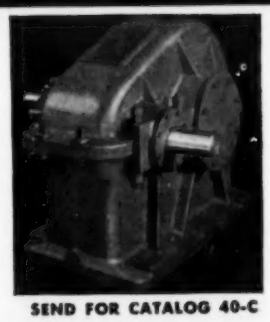
For more details circle NED-59 C3 on enclosed inquiry slip

D. O. James Established 1888

Continuous-tooth HERRINGBONE GEAR SPEED REDUCERS

The Gear With the Backbone

The operating efficiency and dependability of these reducers is continuous testimony to their design and inbuilt qualities of manufacture. They are made in single, double and triple reductions—come in many sizes and in a wide ratio and horsepower range.



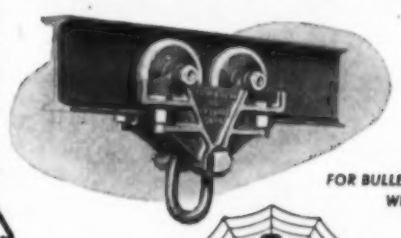
SEND FOR CATALOG 40-C

D. O. JAMES GEAR MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILLINOIS

For more details circle NED-60 C3 on enclosed inquiry slip

hand pushed TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.



P-2530
4" to 10" I-Beam; ½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

JERVIS B. WEBB COMPANY
8921 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

For more details circle NED-61 C3 on enclosed inquiry slip

now

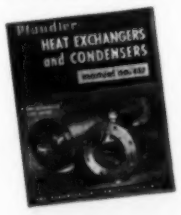
FLEXIBLE STANDARDS for Pfaudler Stainless Steel Heat Exchangers

Design features previously associated only with custom-built heat exchangers are now available at competitive standard cost under Pfaudler's new system of flexible standards.

For a given heat transfer area, you may select the most applicable combination of length and diameter. Further, nozzles can be of any size and in any position and can be either threaded or flanged.

RAPID DELIVERY—With our new production line methods, flexible standard units can be delivered in 4 to 12 weeks after the receipt of your order.

COMPLETE LINE—The flexible standard program applies to fixed tube sheet, single or multi-pass, tube and/or shell side stainless steel units in diameters up to 10". In addition, Pfaudler heat exchangers are available with shell diameters from 4" to 24" in four basic types of construction . . . fixed tube sheet condenser, outside packed floating head design with removable tube bundle and shell, "U" tube construction with removable bundle.



GET THIS PFAUDLER DATA BOOK — This 40-page fact-packed heat exchanger manual contains all the data you need to work out capacity and type problems. Easy-to-follow tables, curves and charts. Full details on Pfaudler heat exchangers. Mail the coupon for your copy.

Pfaudler

ENGINEERS AND FABRICATORS OF CORROSION RESISTANT PROCESS EQUIPMENT

GLASSED STEEL—Hastelloy • Aluminum • Tantalum • Teflon Carbon Steel • Solid or Clad Stainless Steel • Nickel • Inconel • Monel

THE PFAUDLER CO., Dept. NED-3, Rochester 3, N. Y.

Please send me the Pfaudler Heat Exchanger Manual No. 837

Name .....
Title .....
Company .....
Address .....
City ..... Zone ..... State .....

For more details circle NED-62 C3 on enclosed inquiry slip

DUPOR No. 46

U.S.B. of M. APPROVED RESPIRATOR FOR TYPE "A" AND LEAD DUSTS

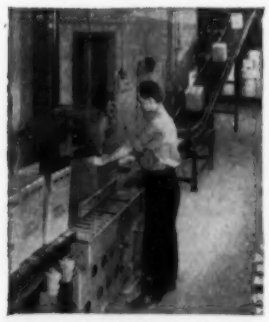
More than 46 sq. in. filtration area. Soft rubber face mask. U.S.B. of M. Approval BM-2124 for LEAD Dusts and ALL other toxic or poisonous dusts as well as Type A (Pneumoconiosis or Silicosis producing dusts). Unit has exclusive controlled breathing valves to guard against stale air. Maximum visibility—no interference with goggles or glasses.

Sample sent $3.25 pp

H. S. COVER
South Bend, Ind.

▲ For more details circle NED-83 C3 on enclosed inquiry slip ▲

Two belt conveyors handle in-process forms; accumulation conveyors (diagonal spur sections) hold orders for release to shipping; main line roller conveyor takes cartons to stapling operation and on to shipping room.



After stapling, cartons are elevated by BELTEVATOR to gravity roller conveyor which carries them to shipping room.

BUSCHMAN CONVEYORS save $10,000 to $12,000 annually at UARCO Inc.

Over a third-mile of belt and roller conveyors replaces skid system . . . save 2,000 square feet of floor space . . . 30% in man hours!

Typical of "pay-for-themselves" records set by BUSCHMAN Conveyor installations is this one in the Chicago plant of UARCO Inc., noted business form manufacturer.

A main powered roller conveyor skirts the printing area, two belt conveyors and forty-six accumulation gravity conveyors achieve a 30% cut in time over the former skid load system.

From long experience, BUSCHMAN Engineers can suggest time, money and space saving equipment for the handling of your materials from receiving through process, assembly and finishing to storage or shipping. BUSCHMAN Conveyor installations are complete to meet your specific needs—dictated by your products, process and space available.

Write for Bulletin No. 60

PRODUCE MORE . . . FOR LESS
Buschman Conveyors

The E. W. BUSCHMAN Co.
Spring Grove at Winton Place
Cincinnati 32, Ohio
Representatives in Principal Cities

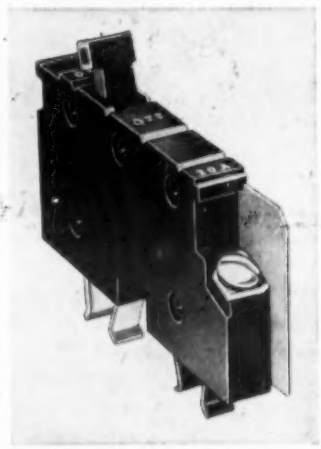
▲ For more details circle NED-84 C3 on enclosed inquiry slip ▲

LIGHT TROLLEY CONVEYOR is fully enclosed for safety

Applicable in food processing, metal-working, aircraft, automotive, furniture and fabricating fields, Chainveyor is light duty, fully enclosed, continuous overhead chain conveyor. It requires minimum of maintenance because closed construction protects chain and trolley units. Flexible short-radius curves and straight tubular track sections are easily installed. Wear parts are held to minimum. Made by **Mathews Conveyer Co.**, 188 Tenth St., Ellwood City, Pa.

▲ For more details circle NED-85 C3 on enclosed inquiry slip ▲

CIRCUIT BREAKER has quick make and break mechanism



Features of model XO circuit breaker for lighting and general purpose loads include quick-make, quick-break operating mechanism, direct action of handle on the blade, automatic relatching, ambient compensation to prevent nuisance tripping due to increased temperatures, plug-in mounting, shock resistance and thermal-magnetic protection for moderate and extremely heavy overloads. The 15 and 20-amp single-pole breakers are ½-in. wide, while 30, 40 and 50-amp ratings are ¾-in. wide per pole and are offered only in double-pole type. Complete XO load center line, covering a range from 1 to 32 circuits, is made up of only six basic boxes. Single phase-three wire, three phase-four wire, main lugs and main breakers and general purpose or rain-tight enclosures are available. Made by **Square D Co.**, 6060 Rivard St., Detroit 11, Mich.

▲ For more details circle NED-86 C3 on enclosed inquiry slip ▲

DO YOU KNOW? Three manufacturing and engineering organizations have become affiliated to provide optimum engineering, production and research services in the fields of filtration and porous media. Complete research facilities are already at work in developing porous metals, alloys and plastics in sheet and fabricated form. Offered by Pall Filtration Cos., Glen Cove, N. Y.

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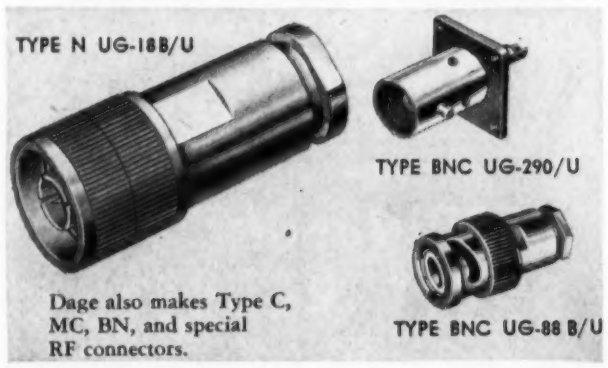
ALWAYS SPECIFY DAGE



Dage also makes Type C, MC, BN, and special RF connectors.

radio frequency connectors

DAGE RF connectors are precision assembled by craftsmen skilled in meeting rigid specifications. Careful inspection, personal attention, and quick shipment are your assurance of satisfaction.

DAGE complete manufacturing facilities expertly produce all types of coaxial connectors.

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ADDRESS_____
CITY:_____

DAGE

DAGE ELECTRIC CO., 63 N. Second St., BEECH GROVE, IND.

▲ For more details circle NED-88 C3 on enclosed inquiry slip ▲

S-A WINCHES SAVE TIME and MANPOWER

There are many lifting and pulling jobs around a plant which can be handled quickly, safely and more economically by an S-A hand-powered or motorized winch. A variety of S-A winches are available, enabling one man to lift loads up to 3000 pounds.

Write for Bulletin No. 340 for complete details.

Both Hand and Motor types for all kinds of hoisting jobs.

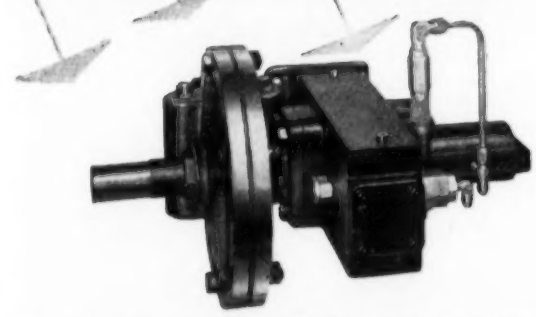
STEPHEN S-ADAMSON MFG. CO.

Tellevel-Bin Level Controls · Saco Speed Reducers · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings

12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ For more details circle NED-89 C3 on enclosed inquiry slip ▲

Measure & Transmit MICRO-PRESSURES



the ASKANIA PNEUMATIC TRANSLATOR

For the transmission of low static or differential pressures . . in the range of 0–1.0 w.c. or higher. For automatic control or recording of pressure, flow, or liquid level.

It measures low-level signals and transmits an air signal or output pressure at a higher level . . usually standard instrument range of 3–15 p.s.i.

Accurate to ±0.5%. Diaphragm measurement of static or differential pressures eliminates trouble associated with mercury manometers.

For additional details, ask for bulletin 154.

ASKANIA REGULATOR COMPANY
258 E. Ontario Street Chicago 10, Illinois
Subsidiary of General Precision Equipment Corp.

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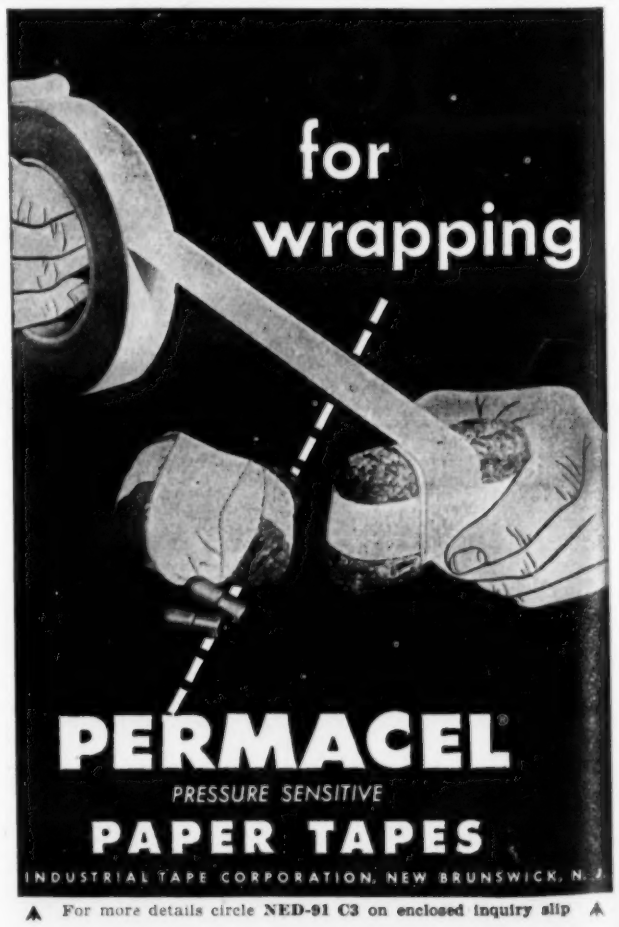

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One man, with an S-A Box Car Loader, can make quick work of loading and trimming a box car. The loader operates without attention after it is placed in the car, and flow of material is started. This handy machine automatically loads and trims in a fraction of the time required by hand methods. Exposure of operator to dust is reduced to the minimum. Save time and manpower with this standard S-A portable loader . . . It handles loose granular material up to 2-inch lump size.

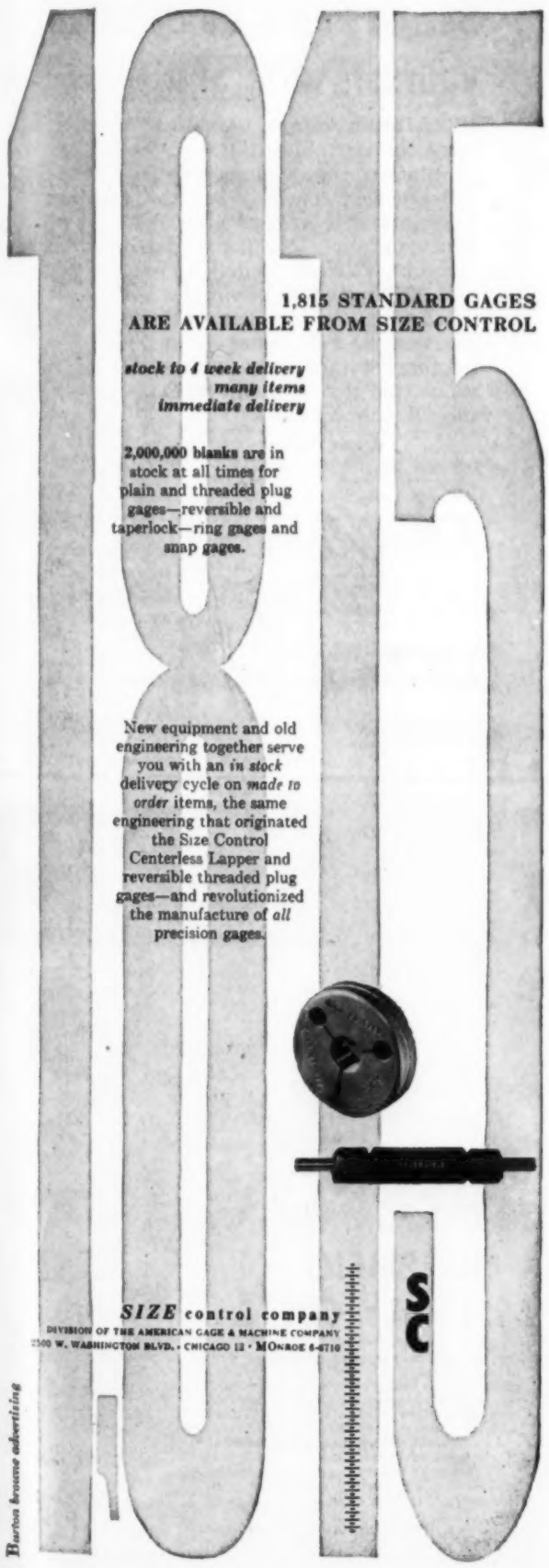
Write for Bulletin No. 948 and full details

STEPHEN S-ADAMSON MFG. CO.

TELLEVEL—Bin Level Controls · Car Loaders · Variable Speed Reducers · Car Pullers · SealMaster Ball Bearings · Winches · Saco Speed Reducers

12 RIDGEWAY AVE., AURORA, ILLINOIS

For more details circle NED-92 C3 on enclosed inquiry slip



Burton browne advertising

For more details circle NED-93 C3 on enclosed inquiry slip

ELECTRIC DRUM WARMER

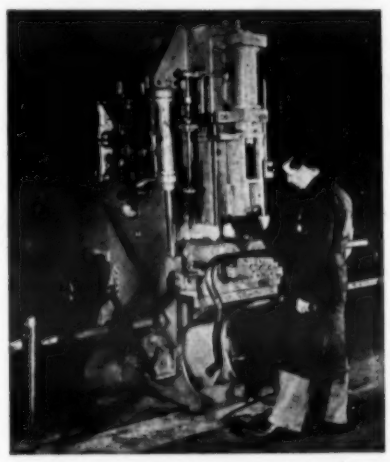
two sizes for 55 and 30-gal drums

Viscous material in standard steel drums can be heated for easier use or removal by this automatic drum warmer. Built for heavy industrial use, unit is portable hinged electric oven that fits around the drum. Contents of drum are not burned or discolored by overheating, and 2-in. Fiberglas insulation protects personnel. Warmer is available to fit 55 and 30-gal drums and can be supplied for 208, 230 and 460-v, single or three-phase power supply. Thermostat ranges available are 100 to 250° F and 60 to 250° F. Made by **Harold L. Palmer Co.**, Dept. NE-P-3, 2980 West Davison Ave., Detroit 6, Mich.

For more details circle NED-94 C3 on enclosed inquiry slip

PIPE & TUBE BENDING PRESS

20-ton hydraulic unit handles broad range of multiple bends in one setup



Fully-hydraulic, self-contained vertical ram-type bending press for tube and pipe is rated at 20 ton capacity. Features include twin equalizing cushion cylinders offset on press frame, automatic angle-of-bend cycling with automatic return to starting position, variable speeds, oil coolers, single screw adjustment for wing dies, movable foot control and shortened die holders for maximum clearance. Unit has power for repeat bending of ½-in. through 2-in. OD steel tubing with maximum wall thickness of 0.083-in. without excessive flattening or distortion. Clearance allows bending of 2-in. tube with 5-in. centerline radius to 180 degrees.

Ram is operated by 12-in. stroke, double-acting hydraulic cylinder. Its speed under no load and on return stroke is doubled. Depth of bend is automatically controlled by settings on 10-station selector turret mounted on left side of frame. A 100-gal oil reservoir is built into base, and 20-hp, 1200-rpm motor is vertically mounted at rear of machine. Power is provided by 2000-psi Vickers pump. Press operates on 220-440 v 3-phase 60-cycle current with 110-v controls. Made by **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle NED-95 C3 on enclosed inquiry slip

NEW LUFKIN LEVELS

LARGE, COMFORTABLE HAND HOLD · TOP WEB FOR EXTRA RIGIDITY

WITH FEATURES MECHANICS PREFER

Micrometer-type threads give finer adjustment and greater accuracy. Shallow "V" base with clearance cut gives better surface contact on shafting. Equipped with cross level—larger sizes also have plumb vial. Ground and graduated main vial on No. 58 with each graduation equal to .005 inch per foot. Plain vials on the No. 57.

The new Master Precision Level No. 59 has accuracy of .0005 inch per foot. Send coupon for complete information.

BUY LUFKIN TAPES • RULES • PRECISION TOOLS FROM YOUR INDUSTRIAL DISTRIBUTOR

Lufkin Rule Company, Saginaw, Michigan, Dept. NED.
Send me circulars describing the new Lufkin Levels.

MAIL TODAY

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-96 C3 on enclosed inquiry slip

NEW PANALARM "50"

. . . simple, plug-in signal system . . .

ALL your signal requirements are fulfilled by a single PANALARM "50". This combined audio-visual system is self-contained, pre-wired, easily installed. New features permit circuit changes without re-wiring. New instrument-type construction gives maximum dependability and service.

All moving parts and contacts are within hermetically sealed, corrosion-proof, plug-in units. Additional signals are merely plugged in.

PANALARM "50" . . . available with backlighted nameplates or bullseye lamps . . . for 3 to 54 signals.

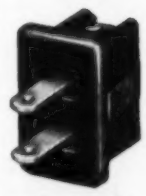
Write for Informative Catalog 100.

PANALARM **PANALARM PRODUCTS, INC.**
6312 N. Broadway, Chicago 40, Illinois

For more details circle NED-97 C3 on enclosed inquiry slip

Save Time, Save Money WITH

'DIAMOND H' SNAP-INS



Consistently tops in quality, "Diamond H" snap-in toggle switches, outlets, pilot lights and inter-connecting load plugs are making important contributions to the performance of leading makes of major appliances, electrical housewares, beauty parlor, air conditioning and ventilating equipment and other devices.

Users like them . . . for their dependability, their appearance *and the man hours they save on assembly lines.* Just snap them into place (wiring up before or after) and spring clips hold them firmly. Wide flanges eliminate need for close tolerances in finishing around installation holes.

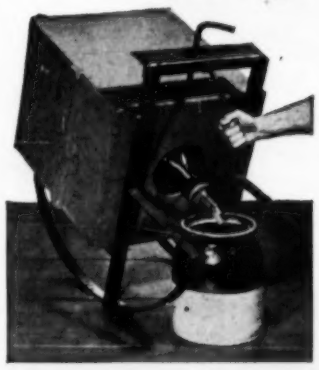
Switches, rated 15 and 20 A., 125 V.; 10 A., 250 V., A. C., and also with h.p. ratings. Pilots rated 115 V. or 230 V., A. C. All four devices available in black, white, brown or special color plastic to harmonize with your product. Send us your requirements today.

THE HART MANUFACTURING COMPANY
204 Bartholomew Ave., Hartford, Conn.

For more details circle NED-98 C3 on enclosed inquiry slip

An Acid Splash is always costly

Even though it does no physical damage it still is wasteful . . . takes time and effort to neutralize and clean up.



pour safer pour faster

The G S SAFTEE-FLO Carboy Tilter eliminates splashing, spilling, damage, waste and possible injury. Rugged steel frame. Acid resistant vented pouring spout. Smooth flows up to 5 gpm.

GS Type 11 Tilter with Saftee-Flo Spout **$24.95**
GS Pouring Spout only **$4.95**

Hundreds of safety equipment items are illustrated, described and priced in the big new General Scientific Catalog.
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2701 W. HUNTINGDON ST., PHILADELPHIA 32, PA.

SAFETY EQUIPMENT FOR EVERY HAZARD

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Makes "Women's Work" of Handling DOUBLE-FACED PALLETS

Magic "Toggle-Booster" floats the truck into the pallet with minimum jolt or jar.

Easiest, quickest way to handle palletized loads—for short hauls, spotting loads or in congested areas. Just roll the truck into the pallet, lift the load and roll it away. Short stroke pump projects rear wheels through bottom face of pallet—lifts any load up to 4000 lbs. easily.

the SERVICE LEVER-LIFT*

*Write for Circular 411.

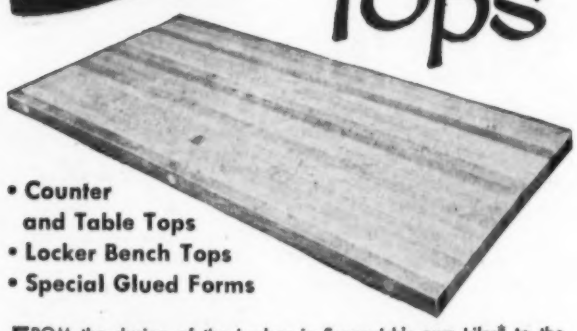
INDOOR MILES Made EASIER and SAFER

SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.
See Your Classified Telephone Directory For Nearest Distributor

For more details circle NED-100 C3 on enclosed inquiry slip

HARDWOOD LAMINATED Bench Tops



- Counter and Table Tops
- Locker Bench Tops
- Special Glued Forms

FROM the drying of the lumber in Sensenich's own kilns* to the cutting, forming and gluing of every hardwood laminated top, the highly trained Sensenich craftsmen play an important part. These skilled workmen use the finest equipment to produce high quality wood parts with thorough efficiency and economy. Remember too, Sensenich is the world's largest producer of wood propellers for personal planes. Sensenich has more than 20 years experience in conditioning, cutting and gluing wood forms to the most exacting standards.

We will be glad to quote on your requirements . . . your request will receive prompt attention.

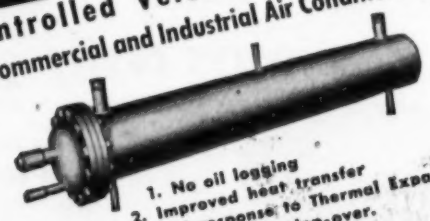
SENSENICH AIRCRAFT PROPELLERS

*Certified by the United States Air Force

SENSENICH CORPORATION
Dept. ND, Lancaster, Pennsylvania

For more details circle NED-101 C3 on enclosed inquiry slip

Taco "Controlled Velocity" CHILLERS for Commercial and Industrial Air Conditioning



1. No oil logging
2. Improved heat transfer
3. Rapid response to Thermal Expansion Valve prevents slop-over.

Water Heaters and Converters for Commercial and Industrial Installations

Provide Hot Water for:
1. Processing
2. Radiation
3. Service

For full information and Taco's "pin-point" Selection Charts, write . . .

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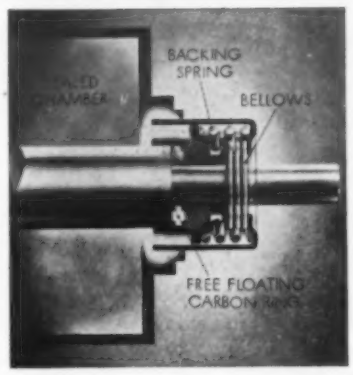
137 SOUTH STREET
PROVIDENCE 3, R. I.

For more details circle NED-102 C3 on enclosed inquiry slip

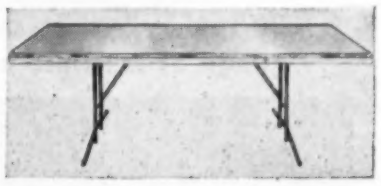
BELLOWS SHAFT SEAL for shafts of sealed equipment



Adaptable to shafts as small as ¼-in. diameter, metallic bellows shaft seal is designed for sealing the control shafts of hermetically sealed equipment. It permits free-turning of the shaft. Because it withstands wide range of temperature changes as well as heat and cold, seal is especially applicable to aircraft components. It is also unaffected by pressure changes. Seals are supplied to specifications and in production quantities. Made by **Clifford Mfg. Co.**, 124 Grove St., Waltham 54, Mass.

For more details circle NED-103 C3 on enclosed inquiry slip

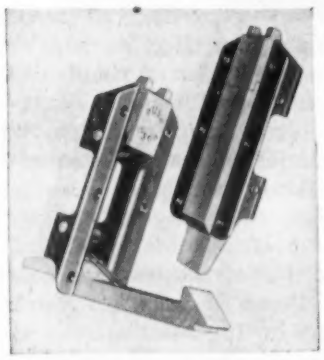
FOLDING TABLES offered with special tops



Tops of Formica, Ornacel and Plasticel are available on Deluxe folding pedestal tables which feature rigid chassis, nontip design, flat stacking and no knee interference. Formica top has light wood-grained satin finish, while Ornacel and Plasticel tops are available with either blonde or brown finish. Tops can be rapidly cleaned with damp cloth and will not stain. Made by **Monroe Co.**, 950 Church St., Colfax, Iowa.

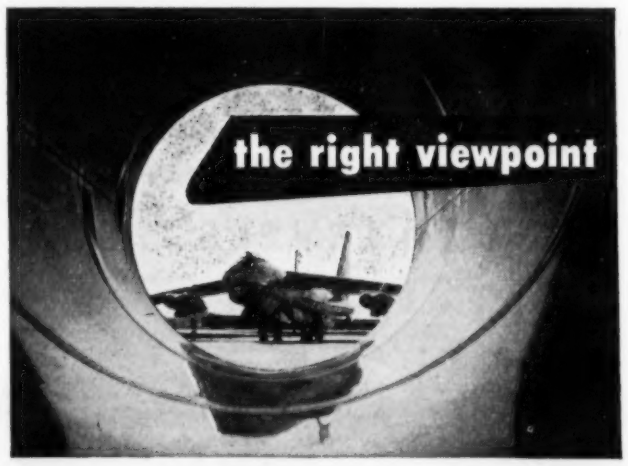
For more details circle NED-104 C3 on enclosed inquiry slip

FLUSH LATCH for aircraft applications



Flushness and high strength of the No. H-5200 latch are accomplished by use of aluminum extrusions with small radius of exposed edges. The trigger-action latch mechanism is fabricated from two 24ST aluminum alloy extrusions. Installation cutout is made in the form of a rectangular slot and mounting is by fastening the bracket of 302 stainless steel with six rivets to the door structure. Actuating springs are cadmium plated music wire. Made by **Hartwell Aviation Supply Co.**, 9035 Venice Blvd., Los Angeles 34, Calif.

For more details circle NED-105 C3 on enclosed inquiry slip



When you're thinking about aluminum or magnesium castings, you need the services of an organization with the right viewpoint.

We're referring, of course, to the right viewpoint toward the best possible use of these two light metals. . . ability to do the job; . . . service; . . . adequate facilities for production; . . . experience.

We here at Wellman like to think we have a combination of all these things . . . trained, interested personnel, three complete foundries and a modern pattern shop, almost a half century of experience in solving casting problems.

Why don't you try us and see how we look from your viewpoint?

- Well-Cast Aluminum and Magnesium Castings
- Well-Made wood and metal patterns

THE WELLMAN BRONZE & ALUMINUM CO.
DEPT. 15, 12800 SHAKER BLVD., CLEVELAND 20, OHIO

For more details circle NED-106 C3 on enclosed inquiry slip

HOMER PERMANENT non-electric MAGNETIC DRUMS and DUCTS for AUTOMATIC REMOVAL of TRAMP METALS

Pat. Pending

HOMER Magnetic Ducts for the removal of tramp iron from Air or Gravity conveyed Grains, Textile and Chemical materials, etc. These units are used with almost any type of processing machinery.

HOMER Magnetic Drums for removal of tramp iron from fine or pulverized dry products, as, Foods, Chemicals, Plastics, Paint Pigments, etc. These units can be used with chutes, hoppers, screw or belt conveying machinery.

Send for detailed information.

Homer The HOMER MANUFACTURING CO., Inc.
Dept. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle NED-107 C3 on enclosed inquiry slip

Set up Fume Ventilation yourself with SPIRATUBE®

SPIRATUBE's design qualities make it ideal for portable and semi-permanent ventilation service, fume removal, all dust collection systems. It has the greatest flexibility and retractability. Sections of SPIRATUBE link together or detach in 10 seconds! No tools needed, no parts to get lost. Nothing could be simpler. And most important, YOU CAN INSTALL SPIRATUBE YOURSELF. Whatever your ducting requirements, FLEXIBLE's line of tubing will meet them better, cost less.

WRITE TODAY for this Illustrated Booklet

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Guilford, Connecticut Pasadena 1, California

For all ducting systems:
FLEXFLYTE®
SPIRATUBE®
AYRTUBE®

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For Portable
AIR COMPRESSORS
PUMPS • HEATERS
WELDING UNITS
CONCRETE MIXERS
SPRAYERS
SPREADERS

FAYETTE Precision Built UNDERCARRIAGES

Complete Assembly, up to 6000 lbs. capacity. Tandems and spring variations for loads up to 12000 lbs.

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Loads move easier, track truer, because of precision construction.

Save money three ways . . . Simpler installation of completely assembled unit. Longer life, trouble-free service. Lower initial cost.

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AIRPORT AND PUBLIC UTILITY EQUIPMENT

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FAYETTE MANUFACTURING COMPANY, 400 FRONT STREET, FAYETTE, OHIO

For more details circle NED-109 C3 on enclosed inquiry slip

For more details circle **NED-110 C3** on enclosed inquiry slip

Photo-Electric Controls you can DEPEND on!

for Counting; Control of Smoke, Registration, Liquid Level, Illumination, etc.

Engineered to do the job. Just tell us what you want to do.

SM2-B—One of many AUTOTRON models designed to meet efficiently all requirements of photo-electric operation from the simplest to the most critical. Built for DEPENDABILITY from rugged cast aluminum cases to the smallest detail.

Send for Bul. SM-52 or tell us what you want to do.

POSITIVE OPERATION. The AUTOTRON Photo-amplifier energizes the built-in plate relay positively even with a small change in light. Avoids critical adjustments. Makes Photo-electric Control more DEPENDABLE and more PRACTICAL than ever before.

SHARP LIGHT BEAM REGULATION. Makes precision control simple instead of "critical"

NEW SAFETY FEATURES. Two-filament lamps avoid light source failure. Safety relay stays open until amplifier warms up—opens automatically when a tube filament fails.

BUILT TO MEET EXACTING REQUIREMENTS. Used throughout industry—in breweries; steel, paper and flour mills, printing plants, pottery and canning factories, foundries, machine shops, etc.

AUTOTRON INDUSTRIAL ELECTRIC CONTROLS

The AUTOTRON Co.
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Representatives in Principal Cities

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NOW OVER 2 MILLION DRAWINGS and MULTI MILLION PRINTS ARE PROOF!

BLUTEX VELLUM

BLUTEX PERMANENT TRANSPARENCY

BLUTEX UNUSUAL STABILITY

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BLUTEX EASY ON THE EYES

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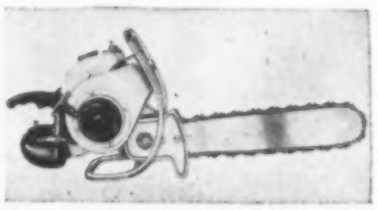
POST BLUTEX VELLUM

NOW IN THREE WEIGHTS
Send for FREE Samples

For more details circle **NED-112 C3** on enclosed inquiry slip

CHAIN SAW
with quick-starting engine



High cutting speed and ability to fell, buck, underbuck, rip, bore, lop and prune are features of lightweight chain saw. It is driven by a Clinton two-cycle air-cooled gasoline engine which has antifriction bearings, steel forged crankshaft and connecting rod and flywheel type dust and moistureproof magneto. Router type sawing chain has spring temper steel guide bar. Also incorporated are automatic clutch, float type carburetor and chain oiling. Made by **Clinton Machine Co.**, Clinton Chain Saw Div., Clinton, Mich.

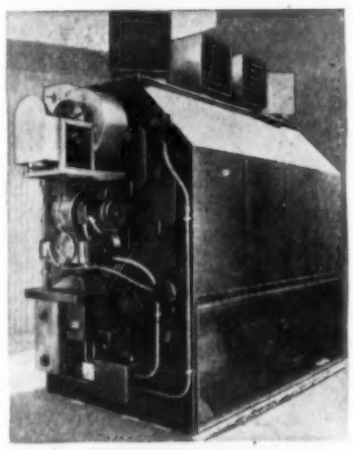
For more details circle **NED-113 C3** on enclosed inquiry slip

DENSITY GAGE
measures unusual process variables

Liquid level and interface liquid level, surface films, specific gravity, unit weight per unit area, and gas and liquid composition are a few of many unusual process variables that can be measured by this density gage. Penetration power of radioactivity is employed to make possible measurements often considered impractical. Basis for the gage is the Ohmart Cell in which radioactive energy is converted directly into electrical energy. Made by **Ohmart Corp.**, Dept. 10429, 2347 Ferguson Rd., Cincinnati 38, O.

For more details circle **NED-114 C3** on enclosed inquiry slip

HEATING SYSTEMS
self-contained, automatic models



Model H line of self-contained, automatically-operated heating systems for industrial and commercial installation includes 12 sizes ranging in output from 200,000 to 2,000,000 Btu. Four-way heat discharge heads and floor line return air grilles provide working level comfort by controlling the direction and extent of heated air circulation. Heat exchangers on all models are of welded, one-piece construction, while chrome-nickel stainless steel firebox is of teardrop design. Units are designed for light or heavy oil, gas or combination gas-oil firing and are listed by Underwriters' Laboratories. Made by **National Heater Co.**, 2184 Cleora Ave., St. Paul 5, Minn.

For more details circle **NED-115 C3** on enclosed inquiry slip

PERFECT HOLES

• A NEW INVENTION!
• A NEW MACHINING METHOD! ROTARY BROACHING*
• A NEW NAME-"ROTARY BROACH"*

ROTARY BROACHES may be used in lathes, turret lathes, automatics, drill presses, etc., to replace reamers. They produce perfect holes with finishes that can only be compared to honing. They last longer before grinding is necessary and may be resharpened 10 to 30 times. They produce perfect holes at a fraction of the cost of those produced by other methods. Eliminates grinding, lapping, honing and boring.

USE THIS NEW MACHINING METHOD—ROTARY BROACHING*
You Cannot Afford Not To Use Rotary Broaches (Write for free descriptive literature)
* "Rotary Broach" and "Rotary Broaching" are new names coined and copyrighted by Shearcut Tool Company
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When you want Perfect Holes, consult
SHEARCUT TOOL COMPANY
Box 746, Dept. NE-33 • • • • Reseda, California

For more details circle **NED-116 C3** on enclosed inquiry slip

Chip Away... PAINT RUST SCALE

with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.
Two sizes in electric or pneumatic models.
For full details, write Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

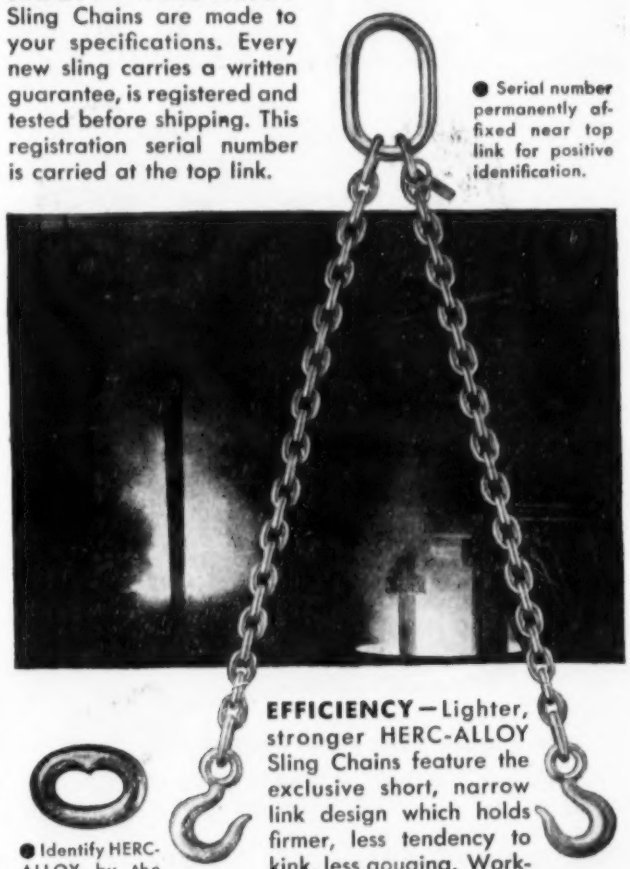
For more details circle **NED-117 C3** on enclosed inquiry slip

NONE BETTER...
America's First and Safest

HERC-ALLOY SLING CHAINS

STRENGTH—Size for size, no other sling chain offers a greater tensile strength. HERC-ALLOY will not crystallize—never requires annealing.

SAFETY—HERC-ALLOY Sling Chains are made to your specifications. Every new sling carries a written guarantee, is registered and tested before shipping. This registration serial number is carried at the top link.



● Serial number permanently affixed near top link for positive identification.

● Identify HERC-ALLOY by the patented Inswell side weld with the extra swell of metal on the inside of the link.

EFFICIENCY—Lighter, stronger HERC-ALLOY Sling Chains feature the exclusive short, narrow link design which holds firmer, less tendency to kink, less gouging. Workmen handle HERC-ALLOY with less effort.

PREFERENCE—Men who buy and use sling chains are influenced only by facts learned through experience. HERC-ALLOY Sling Chain preference has been built up over the years, not just by what we say, but by how HERC-ALLOY performs on the job.

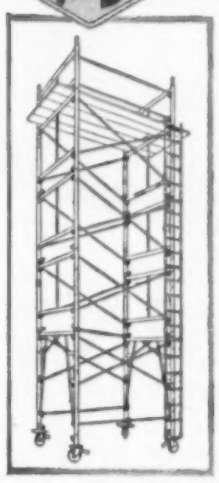
Write for Data Book No. 3 which contains much useful manufacturing and application information on HERC-ALLOY Sling Chains.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corp.)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
District Offices: New York • Chicago • Cleveland
Other Factories at Angola, N. Y., Dixon, Ill., St. Catharines, Ont., Can., and Johannesburg, South Africa.
See us at Booth 1526—Philadelphia—May 18-22
5th National Material Handling Exposition

For more details circle **NED-118 C3** on enclosed inquiry slip

ADVANCE SCAFFOLDING

- DESIGNED FOR SAFETY
- PRICED FOR SAVING



The versatility and safety features of ADVANCE tubular steel scaffolding means substantial savings in maintenance costs for owners and occupants of industrial, commercial and institutional properties. Patented Cam Locks and Stack Locks which are made an integral part of each panel or brace eliminate nuts, bolts and similar methods of attachment. This means speedy, one-man erection to any height and a solid, firm structure, rigid in all directions.

Get the facts about the economy, safety and convenience of ADVANCE scaffolding for advanced methods of building maintenance. Write direct for free literature, engineering and specification data.

BEAVER-ADVANCE products are distributed nationally through industrial and construction equipment dealers. Inquiries re distributorships are invited.

BEAVER ADVANCE

ADVANCE SCAFFOLD DIVISION
BEAVER ART METAL CORPORATION
ELLWOOD CITY, 6, PA.

▲ For more details circle NED-119 C3 on enclosed inquiry slip ▲

FREE
10 DAY TRIAL
OFFER

Speed up your packaging operations

- **SAVE TIME** — complete, controlled moistening of gummed surface made certain by regulated speed of tape under automatic pressure control.
- **SAVE TAPE** — Tape-Mizer dispenses any selected tape lengths from 6" to 70", cut and ready to use.
- **SAVE LABOR** — universal operating trip lets worker trip machine by foot, leaves hands free to fold and handle boxes. Reduces "packers fatigue"!

NASHUA

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NASHUA PACKAGE SEALING
DIVISION OF NASHUA CORPORATION
Nashua, N.H.

World's largest manufacturer of tape moistening machines and gummed tape.

Please send me a National "88" Electric Tay-per® for a FREE 10 day trial.

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Company _____
Address _____
Dept. 60

Stop pilferage with Astex® Printed Tape the INFORMER TAPE!

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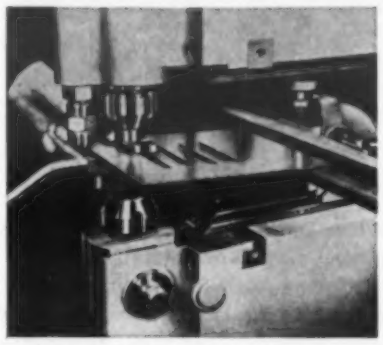
LOUVERING TOOLS for metal sheet working machines



Cutting and forming of louvers in ferrous and nonferrous sheet or plate in a single operation is possible with set of tools designed for use with Pullmax plate working machines. Although radius and opening of louver remain constant, it can be cut to any length. Attachment has swinging type female die in lower section which can be moved to either right or left for final end forming of the louver. Made by **American Pullmax Co.**, 2457 N. Sheffield Ave., Chicago 14, Ill.

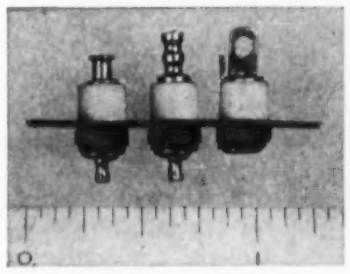
▲ For more details circle NED-121 C3 on enclosed inquiry slip ▲

DIAMOND DRESSING TOOLS have corrosion resistant holders

Oxide coating employed on improved line of diamond dressing tools prevents corrosion when tools are subjected to coolants. Colmonoy alloy is used to assure permanent, secure diamond setting. Diamonds are set in holders under heat and pressure without flux in a neutral atmosphere so that there is a nonporous bond. Twenty-six standard types meet most industrial dressing needs. Made by **Diamonds & Tools, Inc.**, Dept. NE, 19345 John R St., Detroit 3, Mich.

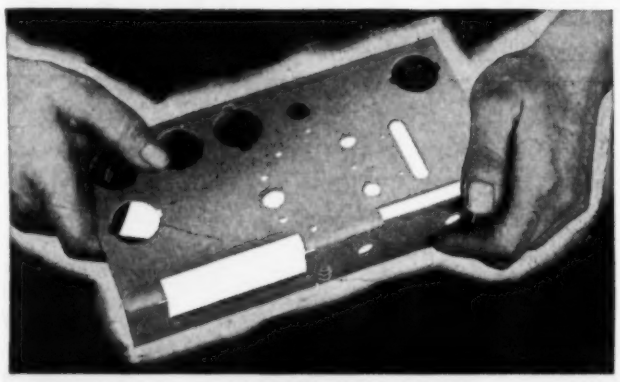
▲ For more details circle NED-122 C3 on enclosed inquiry slip ▲

MINIATURE HERMETIC TERMINALS adaptable to electronic components



Combining properties of Teflon and silicone rubber for superior performance, line of No. 199 miniature hermetic seal terminals includes three electrode styles. They are hollow electrode with eyelet for minimum internal clearance, solid electrode with single turret and solid electrode with double turret. Terminals are mounted in drilled or punched holes with minimum center distance of 15/64-in. Conservative rating is 500 v and 8 amp. Assembly is completed by clinching or drive fit and soldering. Service is also offered to install seals in customers' covers. Made by **Lundey Associates**, Dept. N199, 694 Main St., Waltham 54, Mass.

▲ For more details circle NED-123 C3 on enclosed inquiry slip ▲



COPPER-PLATED PARTS STAY BRIGHT AND CLEAN
when Coated with WATER DIP #33

Here's a simple, low-cost finish that keeps copper-plated surfaces bright, free from fingerprints, chemically clean. It's M & W Water Dip #33. Work goes directly from the last hot water rinse into Water Dip #33—no need for rehandling and drying!

PIONEERS IN PROTECTION

For the complete story on Water Dip #33, write for Bulletin #117, or let our M & W technical consultant discuss your requirements privately with you.

MAAS & WALDSTEIN CO. 2121 McCARTER HIGHWAY NEWARK 4, NEW JERSEY

Midwest Div.: 1658 Carroll Ave., Chicago 12, Ill. • Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Cal.

MANUFACTURERS OF INDUSTRIAL FINISHES

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▲ For more details circle NED-125 C3 on enclosed inquiry slip ▲

Extra thin . . . for cleaner, sharper-line masking. Greater *flexibility* . . . for masking curves faster. Extra *strength* . . . to hold positively yet strip off fast in one piece. Resists stains, oils, solvents—leaves no residue. Gives on-the-job speed and results for a faster, better job . . . *at lower cost*. Write for information and free samples. Mystik Adhesive Products, 2657 North Kildare Avenue, Chicago 39.

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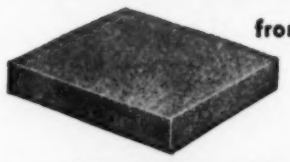
Armstrong's

VIBRACORK CUSHIONS VIBRATION



from Hydraulic Presses, Pumps, Compressors, and many other types of Machinery and Equipment

. . . ACTUALLY FLOATS THE LOAD ON MILLIONS OF AIR CELLS!

Vibracork is a resilient machinery isolation cork plate made of pure cork granules, compressed and baked under pressure.

Convenient to stock — Standard sheets, 12" x 36"; Standard density 2" and 3" thick; Heavy density, 1", 2" and 3" thick.

Easy to use — Can be cut to size on the job with an ordinary hand saw.

Loading range — Standard density, 1500# to 4000# per. sq. ft.; Heavy density, 5700# to 8500# per. sq. ft.

Availability — Immediate delivery. Korfund is sole distributor for the United States.

For installation data and further information, ask for Bulletin VC-500.

THE KORFUND CO., INC.

KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK

48-35P Thirty Second Place • Long Island City 1, N. Y.

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Nicholson Steam Traps

STOP AIR BINDING, Raise temperature 35°

Equipment temperatures were up 30° to 40° higher after Nicholsons replaced mechanical traps in his plant, according to Chief Engineer H. F. D. He also reports faster warm-up, stating that all air-binding was relieved. And "saving in steam waste cut our fuel cost at least 10%". 5 types for process, heat, power. Sizes, ¼" to 2"; press. to 250 lbs. To see why leading plants are increasingly standardizing on Nicholson traps send for . . .

BULLETIN 152

162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

For more details circle NED-128 C3 on enclosed inquiry slip

Wolverine Heavy Duty QUICK ACTION TOGGLE CLAMPS

Extra CLEARANCE
Extra SPEED

Rugged construction—drop forgings, cast steel and solid bar stock.

• • •

Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.

• • •

Wolverine Clamps are in use in almost every major industrial field and are specified by prominent engineering firms. Write for Bulletin.

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

For more details circle NED-129 C3 on enclosed inquiry slip

FREE CATALOG . . . New Coated Abrasive Selector by CARBORUNDUM

Source: THE CARBORUNDUM COMPANY
Niagara Falls, New York

This new "Coated Abrasive Selector for the Average Grinding Job" helps you choose the right coated abrasive for any machine or hand abrasive operation—on metals, non-metallics, or wood.

The recommendations given are complete—including grain sizes and types, backings, coatings, product sizes, prices and packaging information. Metalworking recommendations include coated abrasives for hand, portable and disc sanding; and for contact wheel, platen, and slack-of-belt machine grinding. Recommendations for roughing, polishing, and finishing glass and other non-metallic materials are also shown. For woodworking, coated abrasives are listed for hand sanding and finishing, and machine sanding with the following types of sanders: oscillating, flat belt, edge, turning, moulding, drum, disc, and others.

A special section lists contact wheels—both solid and universal hub, serrated and plain. The "61" Port-A-Belt grinding attachments are also described fully. In addition, you will find a list of machine manufacturers—giving machine model numbers and belt sizes.

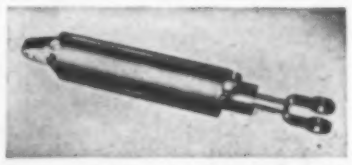
It's free! Get this handy catalog today. Write to Dept. NED 82-310.

"Carborundum" and "Port-A-Belt" are trademarks of The Carborundum Company, Niagara Falls, New York

82-310

For more details circle NED-130 C3 on enclosed inquiry slip

PNEUMATIC CYLINDERS bores range from 1½ through 8 in.



Unitized cartridge rod bearing of this line of key type pneumatic cylinders facilitates servicing and minimizes wear from misalignment. Included in cartridge unit are long bronze rod-end bearing, rod packing and self-centering packing at the pivot point. Cartridge is replaceable without disassembly of cylinder. Added features include heavy wall tubing, chrome plated rods, rod scraper and milled wrench flats on rods. Sizes available are 1½ through 8-in. bores with strokes of any length up to 18 ft. All standard mounts are offered. Made by **Carter Controls, Inc.**, 2800 Bernice Rd., Lansing, Ill.

For more details circle NED-131 C3 on enclosed inquiry slip

TYPEWRITER DESK & CHAIR adjustable for correct posture

Practical in industrial as well as commercial and institutional uses, this typewriter desk and chair ensemble features adjustability of typewriter platform height from 26 to 30 in. Back of chair also adjusts to aid in correct posture. Solid birch desk top measures 20 by 36 in., and square tubular metal legs of continuous-piece construction are attached from inside. Desk has pull-out shelf, standard paper drawer, and a reinforced detachable shelf which fastens to right-hand legs beneath drawer. Wooden corners are reinforced beneath top and along inside with metal locks. Zinc phosphatized leg tubes are liquid plastic coated. Made by **Royal Metal Mfg. Co.**, 171 N. Michigan Ave., Chicago 1, Ill.

For more details circle NED-132 C3 on enclosed inquiry slip

DO YOU KNOW? That Philadelphia's transit conveyances and hotels will be handling peak loads during the week of May 18-22, what with the National Materials Handling Exposition being in town? Some 284 manufacturers of handling equipment will exhibit and several interesting seminars are on the agenda. What's more, all six halls of the city's huge auditorium will be filled, making this one of the year's largest shows. If you want advance registration cards, or hotel information, contact Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

For more details circle NED-133 C3 on enclosed inquiry slip

TELEFLEX MECHANICAL REMOTE CONTROLS

CONTROLS THAT LEAD THE FIELD IN

PERFORMANCE—Maximum efficiency is provided by the unique, screw-type Teleflex Cable. Minimum backlash is maintained by the high cable strength and the close fit between the Cable and the rigid Conduit.

SAFETY—Controls are designed with high margins of safety. End fittings feature positive locking to the Cable. Controls resist fire damage.

VERSATILITY—Controls are routed around obstructions by forming the rigid Conduit as required.

Teleflex controls are assembled on the production line from standard component parts. Straight line, angular or rotary control motions are made possible by the large variety of specialized end fittings.

Engineering service is available.

For further information write for catalog 300C.

TELEFLEX INCORPORATED
125 South Main St.
North Wales, Penna.

For more details circle NED-134 C3 on enclosed inquiry slip

IN MONEL METAL...

. . . or in steel, stainless steel, nickel, aluminum, magnesium, copper or many alloys . . . Hackney Deep Drawn Shapes, Shells and Pressure Reservoirs can help you bolster product appeal with advantages like these:

—light weight
—extra strength
—close tolerances
—streamlined appearance

Write for full details.

PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products
1450 S. 66th St., Milwaukee 14
1324 Vanderbilt Concourse Bldg., New York 17
255 Hanna Bldg., Cleveland 15
936 W. Peachtree St., N.W., Room 136, Atlanta 3
208 S. LaSalle St., Room 779, Chicago 4
578 Roosevelt Bldg., Los Angeles 17
18 W. 43rd St., Room 30, Kansas City 11, Mo.

Hackney

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-135 C3 on enclosed inquiry slip

B.F.Goodrich

TWAY TIRE AND WHEEL ANALYSIS cuts industrial tire failures, saves you up to 50% on tire costs

• What caused your last industrial tire failure? Overloading, oily floors, rough hauling surfaces—all possibilities—or was it the *tires themselves?* If so, chances are that with the *right* tire you can increase tire life—perhaps even double it. Like the equipment they carry, industrial tires are designed to do specialized jobs. Point is, get the specific tire and job together.

B. F. Goodrich has developed the Tire and Wheel Analysis Plan to help you do just that. Without obligation, a trained BFG man will study your materials handling operations and recommend the right tires for you to use. His advice will be impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires.

Use the tires designed for the job and you'll save as much as 50% on tire and wheel costs through greater materials handling efficiency, less expensive maintenance and repair time.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, send in the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Always specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Department TW-240, Akron, Ohio.
Please send me:
☐ *Additional information* on your new Tire and Wheel Analysis Plan
☐ A free copy of your "Industrial Tire Guidebook".
Name _____
Title _____
Company _____
City _____ State _____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

For more details circle NED-136 C3 on enclosed inquiry slip

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Buy it in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 170 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON REPAIR CEMENT OF MANY USES

▲ For more details circle NED-138 C3 on enclosed inquiry slip ▲

PROTECT YOUR FLOORS

As you can see, floors are expensive! So it makes good sense to preserve them with regular, planned care.

How can you do it?

With West's simple, proven FLOOR PRESERVATION PLAN. (1) *Cleaning* — remove all dirt without harming floors (2) *Sealing* — fill the pores. Provide a protective coating (3) *Maintaining* — put on a tough, anti-slip floor wax.

The West Plan offers you more than 20 proven products. A West Floor Specialist will help you select the program or product you need.

WEST DISINFECTING Company

Dept. 16
42-16 West Street, Long Island City 1, N. Y.

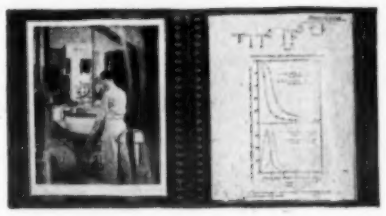
▲ For more details circle NED-139 C3 on enclosed inquiry slip ▲

ADDRESSING MACHINE
marks up to 2000 pieces per hour

Featuring an automatic name advancer, improved model A-3 addressing machine handles up to 2000 pieces per hour. Each name and address is moved into proper printing position. Addresses are transferred to the mailing piece from a typewritten paper tape which can be reused up to 100 times before renewal is necessary. Transparent pressure bar permits viewing of name and address as it is printed. Work ranging from tissue-thin air mail envelopes to 1-in. thick catalogs can be processed. Machine can be adapted to address direct from file cards or office forms. Made by **Weber Addressing Machine Co.,** 202 W. Central Rd., Mt. Prospect, Ill.

▲ For more details circle NED-140 C3 on enclosed inquiry slip ▲

DISPLAY BINDERS
hold up to 60 window sleeves



Up to 60 clear Mikafilm "window sleeve" protectors for display photos, sales data, drawings and catalog information can be held in this Ful-Vu binder. Each sleeve holds two inserts back to back for total of 120 exhibits. Available with either double multo-ring or twin-wire arrangement for holding sleeves, binders are supplied in sheet sizes of 10 x 8 in., 11 x 8½ in. and 14 x 11 in. Made by **Cooks' Inc.,** Dept. ND, Camden 1, N. J.

▲ For more details circle NED-141 C3 on enclosed inquiry slip ▲

DO YOU KNOW? "Microcast—A Story of Industrial Progress" is a sound-color motion picture that you can obtain for showing to interested groups. It shows step-by-step how precision investment castings are mass-produced. This unique process, described in the film, makes possible the economical production of virtually nonmachinable high temperature alloy precision parts. First used in making dental and surgical instruments, Microcast process is now being employed for making jet engine parts, electric shaver components, record changers and hundreds of other products. Booking of film is possible through Austenal Laboratories, Inc., Microcast Div., 244 E. 39th St., New York 16, N. Y.

▲ For more details circle NED-142 C3 on enclosed inquiry slip ▲

an ACCO product

Army Type WRIGHT SAFEWAY

A steel hand hoist with compact, adjustable suspension and trolley to fit various width I-beams. Designed for low overhead. Easily converted to 2-wheel geared trolley unit. Long-life features mean low-cost service.

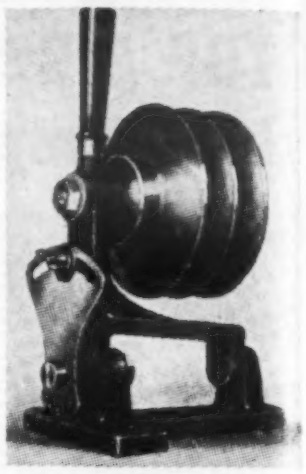
See your WRIGHT Hoist distributor or write for Bulletin DH-269 today.

WRIGHT Hoists Trolleys Cranes

ACCO
WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE
York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

▲ For more details circle NED-143 C3 on enclosed inquiry slip ▲

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. Adv.

▲ For more details circle NED-144 C3 on enclosed inquiry slip ▲

S-W Belt Saver Pulleys
SINCE 1866

. . . Protect Expensive Belts

For rough service installations . . . for the handling of hard, abrasive materials—always specify the S-W 'BELT-SAVER'.

Its special wing and cone design and its self-cleaning action assure longer belt-life and reduced maintenance costs.

The 'BELT-SAVER' pulley is exclusive with Sprout-Waldron, along with a complete line of standard and special cast iron pulleys.

Write for Bulletin 35-A today! Sprout-Waldron & Co., 8 Logan St., Muncy, Pa.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

198

SPROUT-WALDRON

▲ For more details circle NED-145 C3 on enclosed inquiry slip ▲

ONE MAN AND A Lincoln AUTO-SCRUBBER
CLEANS MORE FLOOR SPACE THAN AN ENTIRE CREW OF SCRUBBERS AND MOPPERS!

Above: floor cleaning at well known manufacturer of office appliances with a Lincoln 500 AUTO SCRUBBER that cleans floors better in one-tenth the time at one-fourth the previous cost. Write DEPT. 3-53 for details.

$AVE UP TO 75% ON FLOOR SCRUBBING!

★ Without cost or any obligation whatever, our local floor maintenance specialist in your territory will survey your present methods and submit specific recommendations to insure substantial savings.

There is a recommended LINCOLN for every floor cleaning operation. Ask for a FREE Demonstration

The LINCOLN FLOOR SCRUBBER AND POLISHER

Lincoln-Schlueter
FLOOR MACHINERY COMPANY
1256 WEST VAN BUREN ST., CHICAGO 7, ILLINOIS
55 YEARS OF SERVICE

World's Manufacturer of the Most Complete Line of Floor Maintenance Equipment

▲ For more details circle NED-146 C3 on enclosed inquiry slip ▲

NEW BAKER HYDRAULIC "PUSHER" ATTACHMENT

Handles Loads without Pallets

•

Loads Carriers which fork trucks cannot enter

This new hydraulic "Pusher" device attaches to any Baker 2000 to 6000 lb. fork truck. It is designed for speedy handling of bulky, unpalletized loads such as baled scrap, pulp or cartons. Picks up, discharges or tiers such loads smoothly and without damage. Ideal for loading highway carriers which trucks cannot enter.

Operated from driver's position, with positive control over pushing pressure. Exclusive design reduces truck capacity by only 10%.

write for complete information.

Baker industrial trucks

THE BAKER-RAULANG COMPANY
1245 W. 80th STREET • CLEVELAND 2, OHIO

BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn.
Material Handling and Construction Equipment.

For more details circle NED-147 C3 on enclosed inquiry slip

You can use CABOT'S BRUSH CLEANER over and over!

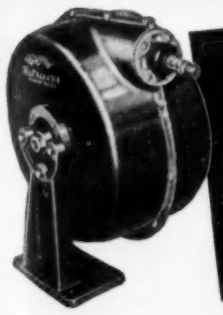
There is real economy in Cabot's Brush Cleaner. Won't evaporate. Can be used over and over again. Makes hardened old brushes like new. Cleans out fresh paint almost immediately. Rinses out easily with water. Non-inflammable. Comes in pints, quarts and gallons.

WRITE TODAY for FREE trial sample of Cabot's Brush Cleaner.

SAMUEL CABOT INC.
332 Oliver Building
Boston 9, Mass.

For more details circle NED-148 C3 on enclosed inquiry slip

STOP WASTE MOTION... LOST MAN HOURS *with*



WAYNE PRODUCTION BOOSTER HOSE REELS

Get more production per worker with Wayne Retriever Hose Reels . . . engineered to reduce wasted motion. Easily installed . . . easily reached — overhead, underbench, floor or beside bench — Wayne Hose Reels have proved themselves "production-boosters" in all types of plants from coast to coast.

Wayne Hose Reels work like a window shade. Ratchet holds hose at any desired length. Slight pull on hose releases catch and hose rolls back automatically to predetermined setting . . . rubber bumper stops it. Ruggedly built for hard continuous use.

Cut worker fatigue . . . increase productive time . . . reduce tool maintenance costs . . . install Wayne "Production-Booster" Hose Reels on your production and assembly lines. There's a Wayne Reel to meet every requirement whether for air, oil or water. Write for new folder on hose reels.

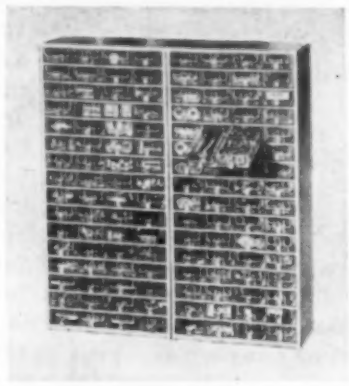
Wayne NATION WIDE SERVICE

THE WAYNE PUMP CO.
SALISBURY MARYLAND • TORONTO CANADA

INDUSTRIAL HOSE REELS
FOR AIR, WATER, FLUID LUBRICANTS AND COOLANTS

For more details circle NED-149 C3 on enclosed inquiry slip

128-DRAWER CABINET
plastic drawers hold small items



Many different small parts used in maintenance departments, repair shops, laboratories and stock rooms can be stored in the Haz-Bin, Jr., a 128-drawer storage unit. Clear plastic drawers make visual selection possible. Each drawer measures 5⅞ x 2¾ x 1 7/16 in., has an index slot and can be subdivided into two or three compartments, lengthwise or crosswise. Safety catch permits drawers to hang out, yet not spill. Entire cabinet measures 6 x 25⅛ x 30½ in. Made by **Akro-Mils, Inc.**, P. O. Box 989E, Akron 8, O.

For more details circle NED-150 C3 on enclosed inquiry slip

ROTARY JOINT
conveys fluids under 350 to 3500 psi

Built for long periods of continuous operation, this rotary joint will convey steam under pressures up to 350 psi and liquids under 3500 psi, while rotating at high speeds. Units have single or double race ball bearings and self-adjusting wear takeup. Self-lubricating rotary seal and mating part cannot be affected by any misalignment or eccentricity up to 10 degrees. Auxiliary seal prevents loss of grease or condensate past bearing. It withstands temperatures from −100° to 600° F. Joint is self-supporting and can be used with or without syphon. It is available in all pipe sizes from ¼ up to 5 in. and can be supplied to withstand corrosive chemicals. Made by **Anco, Inc.**, Dept. 29, 1 Baker St., Providence, R. I.

For more details circle NED-151 C3 on enclosed inquiry slip

DO YOU KNOW? The "Uses Wanted" sign is still out for gallium, one of the weirdest performers in the family of metals. Announced two years ago, this metallic wonder melts at 86° F, but doesn't boil until 3600° F or higher. Like water, it expands upon solidification. It shows marked differences in electrical resistivity and coefficient of thermal expansion along the direction of three axes of its crystallographic structure. It emits electrons at extremely low temperatures. With the price of gallium at $1000 per pound, its producer is looking for commercial uses that will lower the price with an increase in production. Interested? Write Aluminum Co. of America, 801 Gulf Bldg., Pittsburgh 19, Pa.

For more details circle NED-152 C3 on enclosed inquiry slip

LARGE OR SMALL
SHORT OR TALL

Electroline Fittings

ARE THE CHOICE OF ALL

There's an Electroline Wire Rope Fitting to suit your every need. Actual tests have proved their great holding power in all applications, regardless of size or type.

Electroline Fittings are installed easily and safely with ordinary tools—by unskilled labor in a matter of minutes—without the danger of molten metal or acids—without blow torches or special tools.

To give you the whole story of Electroline Wire Rope Fittings, we have prepared a pocket-size illustrated catalog, filled with information of sizes and types. Why not send for your copy today?

Electroline COMPANY
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO.

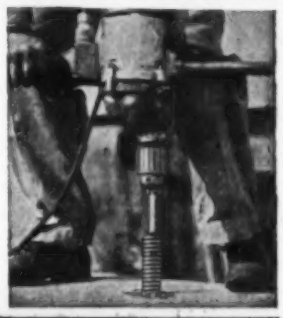
For more details circle NED-153 C3 on enclosed inquiry slip

HARDEST CONCRETE DRILLED LIKE WOOD *with* TERMITE MASONRY DRILLS

You can drill clean, straight holes in all kinds of masonry with TERMITE Drills. Standard diameters from 3/16" to 5" (larger sizes on special order) . . . lengths up to 36".

Continuous spiral worm and exclusive "WICTU" carbide inserts give you fastest drilling and lowest cost drilling. Use with ordinary electric drills.

There's no other masonry drill like the TERMITE Drill!



FREE LITERATURE...write today!

TERMITE ROTARY MASONRY DRILLS
TERMITE DRILLS, INC.
84 N. Lotus Avenue Pasadena 8, California

For more details circle NED-154 C3 on enclosed inquiry slip

ENGRAVING • PROFILING

for heavy production

with the Engravograph TM®

Write for literature describing:

1. Heavy duty model Engravograph (as illustrated above) Catalog H 26
2. Portable model Engravograph Catalog 1M 26

NEW HERMES, Inc. Engravograph
13-19 University Pl, N. Y. 3, N. Y.
CANADA 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

For more details circle NED-155 C3 on enclosed inquiry slip

STOP BUYING LABELS

● NOW YOU CAN PRINT YOUR OWN LABELS AT THE SAME TIME YOU ADDRESS OR MARK THEM!

More firms everyday are eliminating the need for expensive, troublesome pre-printed shipping and identification labels with the new Weber Tag-O-Graph. This amazing machine prints, addresses, or marks shipping and identification labels from a roll of gummed or ungummed stock, in one continuous operation...at the rate of 100 to 150 per minute. And counts and cuts them to practically any size you want, too! Reproduces from an inexpensive, easily-prepared stencil.

Why not have the size and type of label you want...in the quantities you need...when you want them...all at a moment's notice?

- Prints, addresses, marks labels in one operation.
- Counts and cuts them to size, too.
- Fast—100 to 150 labels per minute.
- Produces hundreds of different size labels.

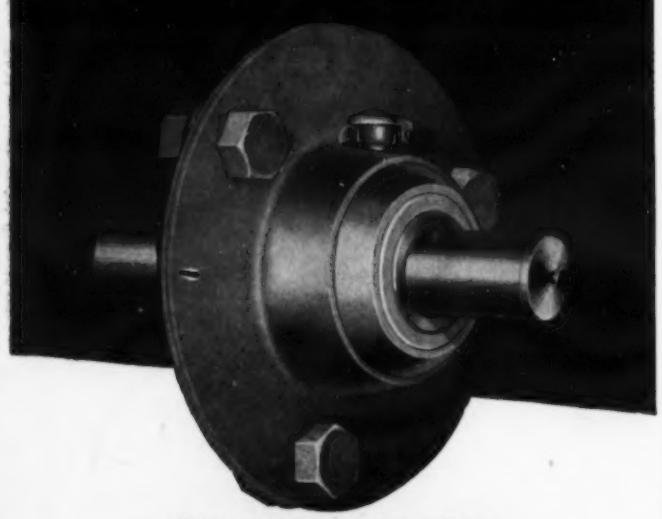
Write today for samples of labels printed by this machine and further information.

Weber Addressing Machine Co.
230 West Central Road • Mount Prospect, Illinois
"For the answers to all your addressing, labeling and marking problems"

▲ For more details circle NED-156 C3 on enclosed inquiry slip ▲

NEW—LOW COST

RANDALL FLANGE BEARING



SPECIALLY DESIGNED for LIGHTWEIGHT FABRICATIONS

Compact and light in weight, this new, low cost, flange sleeve bearing unit is easy to install. Fast assembly—true alignment of shaft in all directions — self lubrication — low cost maintenance and extra long bearing life, are just a few of its many outstanding advantages.

Ideal applications are Grain Machinery—Conveyors — Packaging Machinery — Air Moving Equipment and Agricultural Implements.

This new unit is available with sintered bushings for normal duty or with patented Randall Graphited Bronze bushings for heavy duty applications. Shaft sizes available are 1/2"—5/8"—3/4"—15/16" and 1". Special pre-packed, sealed for life, bearings are also available for operating temperatures from −10°F to +140°F.

Ask your distributor for more information on this new bearing assembly today, or write direct to our office.

See our CATALOG in SWEET'S FILE

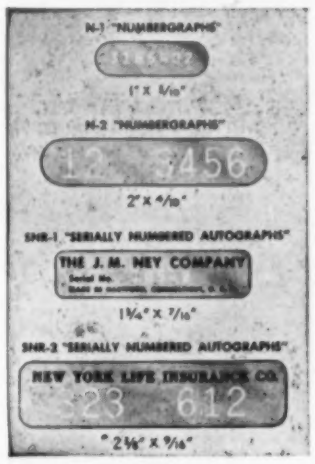
BRONZE BAR STOCK · BRONZE BUSHINGS · PILLOW BLOCKS · SHEET LUBRICATOR · GRAPHITED BEARINGS · THRUST WASHERS · BRONZE CASTING · SAFETY COLLARS

Randall

RANDALL GRAPHITE BEARINGS, INC.
1007 S. GREENLAWN AVE., LIMA, OHIO

▲ For more details circle NED-157 C3 on enclosed inquiry slip ▲

METAL IDENTIFICATION PLATES are flexible and adhesive backed

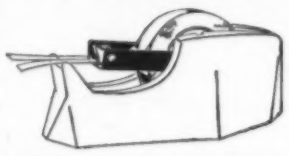


Resilient, solvent-reactivated adhesive on the backs of these metal plates for inventory control and equipment identification permanently adheres to any grease-free surface. Serially numbered Autographs are furnished in three rectangular sizes on 0.016-in. chrome metal. Advertising copy is lithographed in two colors, while serial numbers in any sequence are deeply stamped into plate's face. Numbergraphs, a second type, bear stamped serial numbers only and are produced in two rectangular sizes on 0.008-in. pliable aluminum. These can be shaped to curve or irregular surfaces. Either 3/32-in. or ¼-in. digits, with maximum of eight digits per plate, can be selected. Made by **Metalcraft, Inc.**, Dept. D, 1619 S. Federal, Mason City, Iowa.

▲ For more details circle NED-158 C3 on enclosed inquiry slip ▲

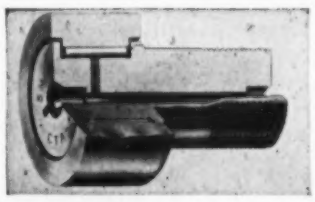
TAPE SLITTER attachment fits dispensers

Cellophane or acetate fiber tape can be slit by an attachment for use on any 3-in. core tape dispenser. It slits 1-in. wide tape in ½-in. widths. Junior model No. 2 slitter is 5 in. long, snaps on the dispenser and has a knife imbedded in plastic. Also available is model 2A for slitting ¾-in. tape into two ⅜-in. widths. Made by **Penn Tape Savers**, 3937 "D" St., Philadelphia 24, Pa.



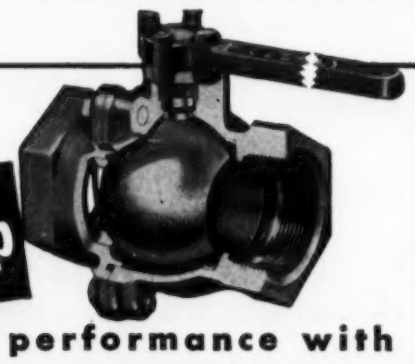
▲ For more details circle NED-159 C3 on enclosed inquiry slip ▲

CAM FOLLOWER ROLLER for heavy duty applications



Designed with high ratio of stud diameter to roller diameter, the type CTA cam follower roller is intended for heavy duty requirements. This is possible because of an integral flange on the stud which provides strength for high speed and heavy loads. Stud diameter can be specified larger or smaller to fit the need other than standard. Bearing section of the stud is case hardened, but left soft on the threaded end to prevent snapping under impact or pressure. Made by **Smith Bearing Co.**, 4 Bear Tavern Rd., W. Trenton, N. J.

▲ For more details circle NED-160 C3 on enclosed inquiry slip ▲



Step up valve performance with Rockwood Ball Valves

Get full *round* flow in a quarter turn!

With Rockwood Ball Valves, the flow is as round as the pipe itself. No turbulence. Minimum friction loss. *And they stay leakproof.*

You'll also like their extra durability. Chrome-plated, floating bronze ball resists scratching, pitting, and abrasion.

Use these valves for handling water, air, carbon dioxide, nitrogen and other gases, paraffin and asphalt base petroleums, alcohol, paper fluids, and many other types of fluids and gases. Tested by Underwriters' Laboratories, Inc. For complete details send for free Bulletin V-4. Rockwood Sprinkler Company, 44 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

ROCKWOOD BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

▲ For more details circle NED-161 C3 on enclosed inquiry slip ▲

Sperry Hydraulic REMOTE CONTROLS

For AUTOMOTIVE, RAILROAD, MARINE, MACHINE TOOL and COUNTLESS OTHER APPLICATIONS

For example—RHEOSTAT CONTROL

The geared take-off at the receiver shaft is used wherever more than 90° travel is required.

• INSTANT RESPONSE • POSITIVE ACCURATE DUPLICATION MOVEMENT • COMPLETELY SELF-CONTAINED, INDEPENDENT • SINGLE TUBE — EASY INSTALLATION • RUGGED and DEPENDABLE

WRITE NOW FOR COMPLETE INFORMATION or send prints and specs for special applications.

SPERRY PRODUCTS, INC.
1103 SHELTER ROCK ROAD,
Danbury, Connecticut
REPRESENTATIVES IN PRINCIPAL CITIES

▲ For more details circle NED-162 C3 on enclosed inquiry slip ▲

FRANTZ MAGNETIC SEPARATORS can help solve your IRON CONTAMINATION PROBLEMS . . .

FERRO FILTER

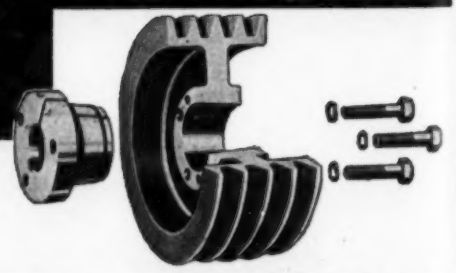
They'll pay off for you in purity and upgrading of your product. Units available (Gravity, Pipeline and Underfeed types) for slurries and other liquid suspensions. Dry type made for separating ferrous particles from powdered and granular materials.

Send for Bulletin 56

S. G. FRANTZ CO., Inc.
P. O. Box 1138 Trenton 6, N. J.

▲ For more details circle NED-163 C3 on enclosed inquiry slip ▲

sheaves changed easier-quicker



Wood's

"SURE-GRIP" Sheave with Interchangeable Hub

Slide sheave and hub on shaft as one unit. Completely split-tapered hub gives all around grip on shaft—allows use on oversize or undersize shaft. To remove sheave, loosen cap screws, insert them in oversize holes and use as jack screws—so simple a child could do it.

Wood's offers immediate delivery in a wide range of sizes. When ordering, specify Wood's "Sure-Grip" Sheave with interchangeable hub. This hub and rim combination is also sold through your Industrial Distributor.

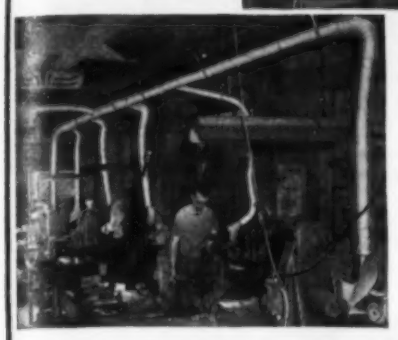
T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.
Branches: Cambridge, Mass., Newark, N. J., Dallas, Tex., Cleveland, O.

▲ For more details circle NED-164 C3 on enclosed inquiry slip ▲

STOP DUST INSTANTLY WITH DUSTKOP

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE



2405 ◀ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

AGET-DETROIT CO.

202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-165 C3 on enclosed inquiry slip ▲

Time-Savings in Finishing

. . . by the handful

For Working ALL METALS, PLASTICS, WOOD, GLASS, HARD RUBBER, PRESSED and LAMINATED MATERIALS and COMBINATIONS

Concerned with soaring time costs? Hard-to-lick finishing problems? Get these Brightboy samples that will show you the way to substantial savings! Brightboy will save and speed for you every day in a big way. Reason: It *combines* burring, finishing, cleaning, polishing into one time-saving operation; does countless jobs conventional abrasives cannot do — PLUS low-cost, "everyday" finishing. The unique action of Brightboy's *abrasive and rubber which work together* does the job—achieves time savings that frequently amount to fifty per cent!

Ask your dealer for the Brightboy introductory sample card illustrated above, containing samples in 3 textures; also for the Brightboy Catalog-Manual. Write us if he cannot supply you, or if you have any problems in which finishing is involved.

BRIGHTBOY INDUSTRIAL DIVISION

Weldon Roberts Rubber Co.

6th Ave. & No. 13th St. Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

▲ For more details circle NED-166 C3 on enclosed inquiry slip ▲

not a GIANT

SAVES COST OF HELP

Yet HE EASILY PICKS UP 800 lb. LOADS WITH A SABIN One-man BARREL TRUCK

Instead of running ordinary truck up to container and waiting for helpers, you move a Sabin Truck up to the container, hook on at top and pull back on handle to pick up load. *Third Wheel Feature* for better balance and added safety in moving load. WRITE FOR BULLETIN 48-A.

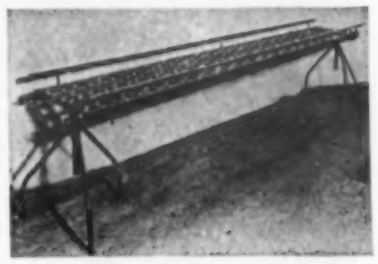
THE SABIN MACHINE CO.

6536 Carnegie Avenue

Cleveland 3, Ohio

▲ For more details circle NED-167 C3 on enclosed inquiry slip ▲

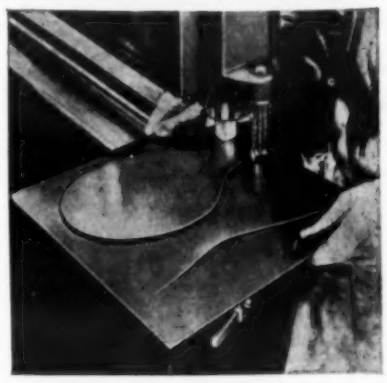
GRAVITY WHEEL CONVEYORS furnished with 6 to 36 wheels/ft



Line of all-welded standard size gravity wheel conveyors for handling sheet metal, plywood cartons, boxes and some cylindrical objects are offered in straight-line and 45 or 90-degree curved sections. Gated section and switches are also available, and stands are adjustable for gravity pitch. Conveyors feature cadmium plated ball bearing wheels mounted on ¼-in. diameter axles located on 3-in. centers along channel frame. Axles are held in place by spring steel snap rings for easy maintenance. Conveyors are furnished with 6 to 36 wheels per ft. Made by **Sage Equipment Co.**, 28 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-168 C3 on enclosed inquiry slip ▲

CONTOUR SHEAR for inside cutting, beading, forming



Shearing principle incorporated in Wales Tru-Edge contour shear eliminates resistance to feeding and turning the work. Feeding of material can be started while the ram is operating. Shear is designed for inside cutting, beading and forming sheet steel. Inside cutting requires no starting holes. An adjustable bottom shearing die is quickly set for various material thicknesses. Machine cuts from 10 to 36 fpm, depending upon gage and material. Capacity is up to 10-gage mild steel and 11-gage stainless steel. Throat depth of 48 in. can be increased by arranging centers outside the throat. Made by **Wales-Strippit Corp.**, 363 Payne Ave., North Tonawanda, N. Y.

▲ For more details circle NED-169 C3 on enclosed inquiry slip ▲

DO YOU KNOW? Leaks in anything from a football to a complicated coil or piping system can be detected readily with Freon-12, the commonly used refrigerant that is colorless, nontoxic and odorless. A liquid under pressure, it changes to a gas when released from pressure at room temperatures and seeks out even the smallest leaks. The exact location of such leaks is found with an electronic device or gas-burning torch whose flame changes color in contact with noninflammable Freon-12. Full information is available from E. I. du Pont de Nemours & Co., Dept. NED, Wilmington 98, Del.

▲ For more details circle NED-170 C3 on enclosed inquiry slip ▲

LIGHTWEIGHT VERSATILE POWERFUL...

Hein-Werner Hydraulic Jacks meet industrial needs

Turn hard jobs into easy ones. The 8-ton capacity Hein-Werner Hydraulic Jack (illustrated) provides 16,000 lbs. of hydraulic pressure for pushing, pulling, bending or straightening operations. This jack is easy to handle for it weighs but 27 lbs., and operates in any position from vertical to horizontal.

The complete line includes models of 3, 5, 8, 12, 20, 30, 50, and 100-tons capacity. See your industrial supply distributor or write us for details.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION WAUKESHA • WIS.

▲ For more details circle NED-171 C3 on enclosed inquiry slip ▲

A Basic Tool

POCKET-SIZE VOLT-OHM-MILAMMETER With Self-Contained Resistance Ranges to 3 Megohms.

Note the wide ranges of this compact design. Note controls, flush with panel. Enclosed selector switch keeps dirt out, retains contact alignment permanently. Resistors, shunts, rectifiers housed in molded base integral with switch; no chance for shorts. Resistors are precision film or wire-wound types, each in its own compartment. Inside view shows details. Batteries easily replaced—positive grip coil assures permanent contact.

$26.50—AT YOUR DISTRIBUTOR Prices Subject to Change

FOR THE MAN WHO TAKES PRIDE IN HIS WORK Triplett TRIPLETT ELECTRICAL INSTRUMENT CO. BLUFFTON OHIO U.S.A.

▲ For more details circle NED-172 C3 on enclosed inquiry slip ▲

Important savings at Eureka-Williams Corp. because

ALL drawings are reproduced on Kodagraph Autopositive Paper

In print production . . . no wear-and-tear to valuable originals. The Eureka-Williams Corp., Bloomington, Ill., protects its ever-growing investment in drafting time and dollars by using low-cost Kodagraph Autopositive intermediates to obtain the desired number of shop prints. These intermediates, unlike the original drawings, will not smudge or lose line density with repeated printings . . . will produce highly legible prints time after time. Furthermore, their dense photographic black lines and evenly translucent base permit running the prints at uniform, practical speeds.

These positive photographic intermediates are produced *directly* . . . without the negative step. A standard print-making machine is used for exposure . . . standard photographic solutions for processing. A fast, easy room-light operation *that saves dollars!*

In drafting . . . revisions made 7 times faster. The basic designs for Eureka-Williams oil burners, furnaces, and vacuum cleaners are being modified constantly for the production of various models. Here's just one way Autopositive is used to boil 3 days of drafting time down to 3 hours—

1. An Autopositive intermediate is made of the drawing which is to be revised.
2. The draftsman deletes the unwanted parts of this print with a razor blade.
3. From this, another Autopositive intermediate is made.
4. Then the draftsman only has to add the new design . . . and a new "file original" is ready. From it, additional Autopositives can be made for print production.

Get complete facts on Kodagraph Autopositive Paper, which you or your blueprinter, can process quickly, at low cost. Write for a free copy of "New Short Cuts and Savings."

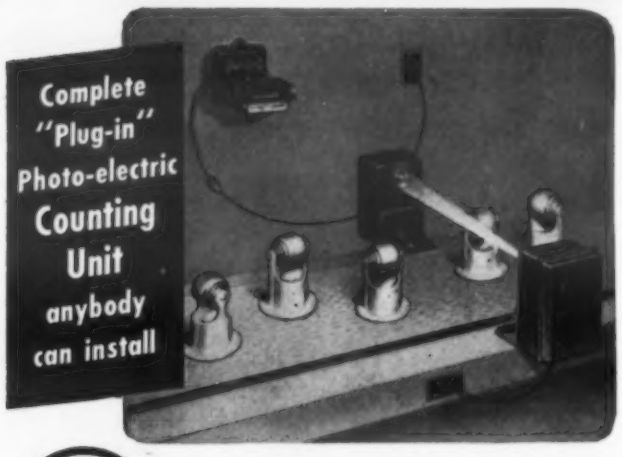
EASTMAN KODAK COMPANY

Industrial Photographic Division

Rochester 4, N. Y.

Kodak

▲ For more details circle NED-173 C3 on enclosed inquiry slip ▲



Complete Catalog mailed on request.

Ideal for counting objects of irregular size or shape, objects too small or too light to operate a switch, freshly painted or hot objects, fresh food, etc.

Factory-adjusted and wired for plug-in connection to lighting outlet. (Also furnished for permanent connection.) Requires no technical skill.

Includes rugged, heavy duty Wizard Electric Counter, also rugged, industrial quality Actuator and Light Source housed in cast aluminum cases with adjustable mounting brackets.

Ask your PIC representative or send for literature.

PRODUCTION INSTRUMENT COMPANY
700-12 W. Jackson Blvd., Chicago 6, Ill.

▲ For more details circle NED-174 C3 on enclosed inquiry slip ▲

Why is there a difference in ROLLER CHAINS?

For the past sixty-two years the Diamond Chain Company has continuously devoted its efforts to the attainment of higher quality in the product, and the constant expansion in the use of roller chain as a superior mechanical means of power transfer . . . Research, testing and engineering developments have always been factors of first consideration at Diamond Chain.

FOR EXAMPLE:—

1. Diamond Chain has improved the pin and bushing holes in the link plates by proper pitch hole preparation. Pins and bushings are case hardened.
2. Diamond Chain has long recognized that certain types of internal stressing of chain parts would increase fatigue resistance. To this end, link plates have been specially processed and chain rollers and other parts have been shot-peened since 1944.
3. Diamond Roller Chain is constantly improved. Time tested improvements become standard for production as soon as established and certified.
4. Fully equipped and well staffed chemical and physical testing laboratories have made it possible to control raw material specification, their treatment and processing.
5. Diamond Chain has established production processing methods and quality controls through multiple inspection to insure uniformity of high quality in continuous production runs.
6. As always the Diamond trade-mark on roller chain is the Hall Mark of Quality.

DIAMOND CHAIN COMPANY, Inc.
Dept. 457, 402 Kentucky Avenue, Indianapolis 7, Indiana
Offices and Distributors in All Principal Cities
Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

DIAMOND ROLLER CHAINS

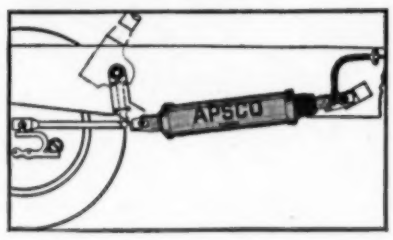
▲ For more details circle NED-175 C3 on enclosed inquiry slip ▲

TANK-MOUNTED VACUUM PUMPS in 3.6 to 40 cfm displacement sizes

Large reserve tank capacity in series of tank-mounted vacuum pumps provides instant surges of vacuum without delay for such operations as package evacuation and vacuum drawing of plastics. Rotary oil sealed type pump is designed to run continuously, but can have automatic shut-off switch if specified. Tank receiver holds pump, motor, air cleaner, vacuum gage, relief valve and muffler. Units range in capacities from 3.6 to 40 cfm pump displacement and up to 1/10-in. barometric pressure. The 18-in. scale at bottom of tank illustrated indicates compactness of units. Made by **Squire-Cogswell Co.**, 4142 N. Kedzie Ave., Chicago 18, Ill.

▲ For more details circle NED-176 C3 on enclosed inquiry slip ▲

VEHICLE STEERING BOOSTER is air powered, fits all vehicles



Compressed air is utilized by improved Power Steer Booster to supply power for safe, easy steering on all commercial type vehicles. Fully automatic, steering device minimizes physical effort in steering trucks, tractors, or construction equipment and requires only few fittings for installation on old or new vehicles without altering any part of steering mechanism. One end is fastened to stationary member and other end to movable part of steering linkage. Device cannot jam or freeze and can be adjusted to handle from full steering load to no load as determined by road conditions. Made by **Air-O-Matic Power Steer Corp.**, 24 Noble Ct. N. W., Cleveland 13, O.

▲ For more details circle NED-177 C3 on enclosed inquiry slip ▲

DO YOU KNOW? Meet a newcomer in the punched card accounting field, Underwood Corp. Working with Powers-Samas Accounting Machines Ltd., London, it will distribute and service Samas products here. Three punched card sizes are offered. Equipment includes line of automatic key punches, automatic verifiers, reproducers, interpreters, interpolators, sorters and tabulators, designed to meet needs of organizations of all kinds and sizes. Underwood is located at 1 Park Ave., New York 16, N. Y.

▲ For more details circle NED-178 C3 on enclosed inquiry slip ▲

NEW INDUSTRIAL HUMIDIFIER

BAHNSON TYPE E Self-Contained Unit Humidifier

Requires only water supply and electrical connection

NOTE THESE FEATURES!

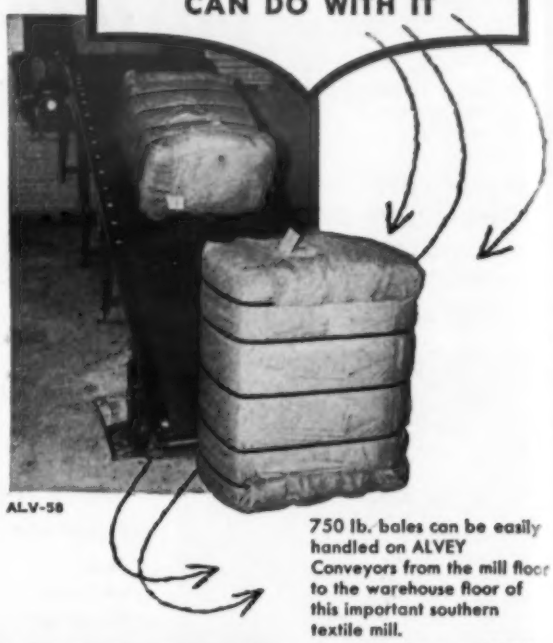
- HIGH CAPACITY—Evaporates 3 gallons per hour with ¼ HP motor.
- AUTOMATICALLY CONTROLLED at any desired relative humidity.
- SIMPLE TO INSTALL—Just uncrate and suspend from ceiling.
- ELECTRIC MOTORS for all common current characteristics.
- WATER SUPPLY connection for ¼" tube or ⅛" pipe provided.
- NEEDS NO pump, duct, compressed air, steam, drain or floor space.
- EFFICIENT centrifugal atomization of ordinary city water.
- TWO MODELS, ¼ HP for high capacity, ⅛ HP for small rooms.

FOR COMPLETE HUMIDIFICATION SYSTEMS, FOR BOOSTING, FOR SPOT HUMIDIFICATION, FOR LABORATORIES

FOR TRULY DEPENDABLE LOW-COST HUMIDIFICATION — Bahnson Company, ENGINEERS AND MANUFACTURERS, WINSTON-SALEM, N. C.

▲ For more details circle NED-179 C3 on enclosed inquiry slip ▲

LOOK WHAT YOU CAN DO WITH IT



750 lb. bales can be easily handled on ALVEY Conveyors from the mill floor to the warehouse floor of this important southern textile mill.

If you could use an ALVEY Conveyor installation like this, you'd save money. Write while you're thinking of it. We'll be glad to send complete details.

ALVEY CONVEYOR MFG. CO.
9259 Olive Street Rd., St. Louis 24, Mo.
Branch Offices in Principal Cities

▲ For more details circle NED-180 C3 on enclosed inquiry slip ▲

PRESSURE Measurement ACCURACY 0.1%

W&T PRECISION DIAL MANOMETER, FA-145

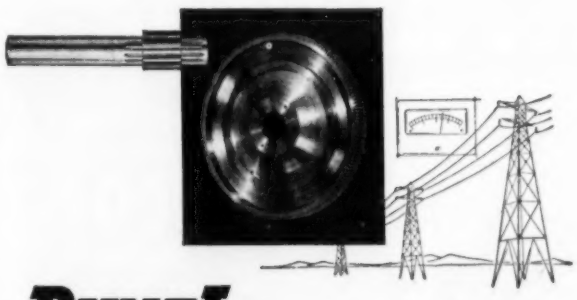
Ranges: All ranges from 0-120 inches water through 0-250 inches Hg. in two revolutions—45 inch scale.

Write today for Publication No. TP-30-A A-96

WALLACE & TIERNAN PRODUCTS, INC.
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey . . . Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

▲ For more details circle NED-181 C3 on enclosed inquiry slip ▲

New Concepts in Fine-Pitch Gear Supply!



RYNEL

PRECISION INSPECTION

Rynel's complete inspection facilities deliver fine-pitch gears with split-limit accuracy.

From start to finish . . . from blanks to perfect performance . . . each Rynel fine-pitch gear must meet the rigid standards for quality control set by Rynel engineers. Latest-design inspection instruments, operated by experience-trained personnel, guarantee the quality needed to meet your most exacting requirement.

Precision inspection — custom engineering — personalized air-lift and air-freight service — dependable high-volume supply . . . add them to **your** production team today.

Specify Rynel precision FINE-PITCH GEARS . . . for all major Electronics — Instruments — Communications applications.

A Rynel Engineer will visit you the same day you call.

PHONE STERLING 4440

RYNEL CORPORATION
302 Miller Street • Sterling, Illinois
Chicago Office: 4730 N. Western Avenue
Telephone: LOngbeach 1-7111
Spur • Helical • Worm • Worm Gear • Internal Segment • Sprocket • Ratchet • Straight Bevel

▲ For more details circle NED-182 C3 on enclosed inquiry slip ▲

The Jacques Model 45 Slitter & Rewinder

For Low Cost Slitting & Rewinding
OF PAPER, PLASTICS, FABRICS, LAMINATIONS, ETC.

Here's a machine designed for low cost slitting and rewinding of light materials up to 20/1000" thick. Handles widths up to 45" and parent rolls up to 40" diameter.

Because of its improved design, this Jacques slitter saves you money in initial cost, and in installation and operating expenses. Faster, easier production is made possible by new patented frictions. Available with rotary contact or razor-type cutters (or both) for your individual needs.

FREE FACTORY TEST RUN! Send your material and specifications to our plant for free test run at no obligation.

WRITE FOR DESCRIPTIVE FOLDER! *Get detailed information now!* For trouble-free performance through the years, specify only *genuine* Hobbs replacement parts.

HOBBS MANUFACTURING CO.
41 SALISBURY ST., WORCESTER 5, MASS.
EST. 1882
Producers of Modern Machinery for Modern Industry
Jacques Hand and Power Shears, Slitters and Rewinders, Hobbs Autotronic and Tri-Power Die Presses, Paper Box Machinery and Touch-O-Matic Industrial Cutters.

For more details circle NED-183 C3 on enclosed inquiry slip

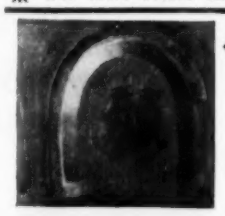
PAGE FENCE *Since 1883*
• AMERICA'S FIRST WIRE FENCE •

Don't **blame** yourself for costly loss or property damage caused by lack of property protection. Install sturdy Page Chain Link Fence. It has been providing security against possible disruption of business, vandalism, or many other losses or injuries for more than 60 years. Page Fence is available in heavily galvanized Copper-Bearing Steel, Stainless Steel or corrosion-resisting Aluminum. NOW is the time to consult the skilled Page Fence erecting firm nearest you. For name and address and helpful illustrated fence data . . .

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

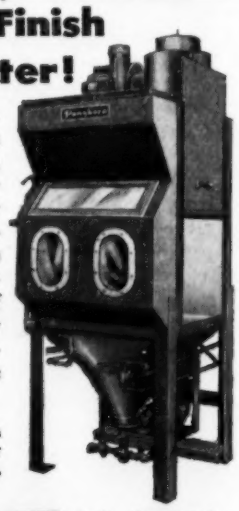
For more details circle NED-184 C3 on enclosed inquiry slip



BEFORE
Mold cleaned and finished by Pangborn Hydro-Finish in *minutes!*

AFTER

Pangborn Hydro-Finish cleans better—faster!



Molds, dies, tools—Pangborn Hydro-Finish cleans them quickly, leaves them bright and ready to use! Hand cleaning and polishing is practically eliminated! And production is further speeded up because Pangborn Hydro-Finish, operated by one man, removes scale and discoloration in minutes instead of hours. In addition, the use of fine mesh abrasives suspended in water gives you a precision job . . . holds tolerances to .0001" . . . protects delicate equipment.

GET COMPLETE FACTS on Hydro-Finish and how it can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

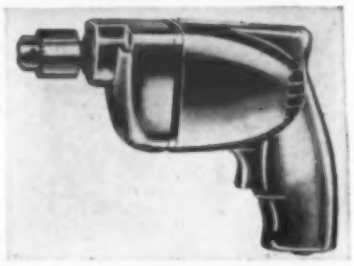
Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

BLAST CLEANS CHEAPER
with the right equipment for every job

For more details circle NED-185 C3 on enclosed inquiry slip

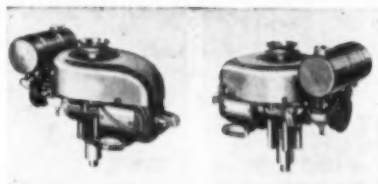
PORTABLE ELECTRIC DRILL designed for industrial service



Ball bearing construction, hardened gears, double coil motor, dynamically balanced armature and full-grip handle are features of Ball Rite portable electric drills. Tools are designed expressly for industrial duty and are popularly priced. Made by **Cummins-Chicago Corp.**, 4770 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-186 C3 on enclosed inquiry slip

TWO-CYCLE GASOLINE ENGINE is 1¾-hp vertical-shaft unit



Quick starting is featured by this VS-200 two-cycle vertical-shaft gasoline engine, popular as a drive for rotary-type power lawnmowers. The 1¾-hp unit has a 1⅞-in. bore by 1⅝-in. stroke, an aluminum scavenging piston, dust- and moisture-proof magneto, one-piece aluminum die cast cylinder block, concentric float-feed carburetor for high angular operation and ⅞-in. crankshaft for high impact strength. Other features include large die cast starter pulley, three large-area bronze main bearings with capacity to withstand high-impact loads, balanced air-vane governor and connecting rod with bronze inserts at both ends. Made by **Clinton Machine Co.**, Maquoketa, Iowa.

For more details circle NED-187 C3 on enclosed inquiry slip

ORDER ASSEMBLY CART shelves measure 25 x 42 in.

Feature of this welded steel warehouse order assembly cart is bayonet pin, which, when lowered, engages recessed floor chain conveyors for automatic transfer of orders. Two shelves for selected or bulky orders measure 25 x 42 in. Convenient check-off writing surface is provided for order-picking records. Wheels are ball bearing with rubber tires. The two in front are swivel type for easy guiding. Cart can be equipped with tow hooks for hauling in train. Steel angle units form frame and reinforcing corner plates assure rigidity. Bright aluminum paint is standard finish. Made by **Equipment Mfg., Inc.**, 21566 Hoover Rd., Detroit 5, Mich.

For more details circle NED-188 C3 on enclosed inquiry slip

TAKE YOUR CHOICE— STEEL OR TWINE TYING

GERRARD offers you the best of both!

● The new Gerrard B.S.M. Twine Sealer is completely automatic in its operation . . . just place the bundle, step on the pedal and, in *three seconds*, the twine is wrapped around the bundle, drawn to a pre-set tension, firmly secured with a *metal seal*, and cut. It is fast, safe and economical.

Where heavier weights must be reinforced or greater safety is desired, Gerrard Round Steel Strapping, in 8 to 18½ gauge, can be applied with hand-operated machines or, in the smaller gauges, with Gerrard's semi-automatic Model Q.

SEND for complete information about the Gerrard Method of Twine Sealing and of Steel Strapping. It's free. And the advice of a Gerrard Packaging Engineer is also available without obligation.

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond Street, Chicago 32, Ill.

U·S·S GERRARD STEEL STRAPPING
UNITED STATES STEEL

For more details circle NED-189 C3 on enclosed inquiry slip

SOLVE YOUR ROTARY SEALING PROBLEMS with FAWICK ROTORSEALS

Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

Write for ROTORSEAL Bulletin ML-6.

FAWICK AIRFLEX DIVISION
FEDERAL FAWICK CORPORATION
9919 CLINTON ROAD • CLEVELAND 11, OHIO

FAWICK Airflex

For more details circle NED-190 C3 on enclosed inquiry slip

Look at these big pages from the new Yale Hoist Book

IT'S YOURS FOR THE ASKING

You need this FREE book if...

...your company uses hoisting equipment in any phase of its operation! This book is more than a catalogue of the industry-leading YALE line...it is a carefully and expertly designed tool...thoroughly illustrated...scientifically developed to help you select just the right hoist for your needs. Yes, you need this book if your hoisting requirements are just an occasional lifting job or a major part of your work. Get it without obligation by completing the coupon and mailing it today.

Yale Hoists are sold exclusively through
INDUSTRIAL DISTRIBUTORS

YALE*
MATERIALS HANDLING EQUIPMENT
*Registered Trade Mark

MAIL THIS COUPON TODAY
The YALE & TOWNE Manufacturing Co., Dept. 373
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa
Please send me my FREE copy of the NEW Yale Hoist Book
Company_____
Name_____ Title_____
Street_____ City_____ State_____
In Canada write: The Yale & Towne Manufacturing Company Box 337—Postal Station "A"—Toronto

GAS AND ELECTRIC INDUSTRIAL TRUCKS • WORKSAVERS
HAND TRUCKS • HAND AND ELECTRIC HOISTS • PUL-LIFTS

For more details circle NED-191 C3 on enclosed inquiry slip

FIRST FIND OUT ALL THE DOWN TIME

Make every machine now work harder and produce more. How? Well, the first step is to find out if any valuable time is now being wasted by machines *standing idle* at odd moments. And the way to do *that* is to clamp a little SERVIS RECORDER on each one of your machines. Then you'll get the whole story—see chart above. Write for our folder—"*A Busy Plant.*" The Service Recorder Co., 1375 Euclid Ave., Cleveland 15, Ohio.

The Servis Recorder
SHOWS UP ALL IDLE TIME!

▲ For more details circle NED-192 C3 on enclosed inquiry slip ▲

an ACCO product

TRU-LAY PUSH-PULL CONTROLS

for Continuous or Intermittent Transmission of Reciprocal Motion

SOLID . . . *as a rod*
FLEXIBLE . . . *as a wire rope*

Tru-Lay Push-Pulls snake around obstructions. Provide positive remote action. Operate while flexing, as on shakers. Few or many bends. Short or long distances. Ruggedly constructed for years of service. Capacities up to 1000 pounds input.

Write our Detroit office today for DH-287

TRU-LAY PUSH-PULL CONTROLS

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

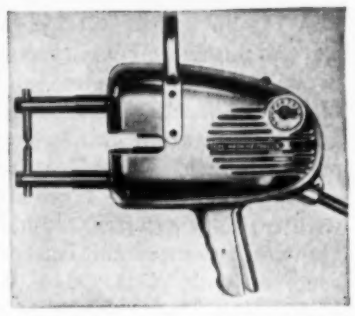
▲ For more details circle NED-193 C3 on enclosed inquiry slip ▲

CIRCUIT BREAKERS offered with several enclosures

Only five elements comprise the simplified Stablok circuit breaker, designed as a simultaneous trip double-pole device. A short circuit or overload in one pole automatically disconnects both poles on the line. Breakers feature self-locking stabs for quick insertion in enclosures and to permit selection of any combination of breaker amperages. Flush surface enclosure can be flush or surface mounted. Devices range from a capacity of 1 circuit to a 20-circuit loadcenter in general purpose and raintight enclosures. Panelboards are available up to 42 circuits. Made by **Federal Electric Products Co.**, Dept. NED, 50 Paris St., Newark 5, N. J.

▲ For more details circle NED-194 C3 on enclosed inquiry slip ▲

PORTABLE SPOT WELDER has built-in electronic timer



Any timing cycle from 1/60-second to 1 second can be selected by switch setting in this portable electric spot welder which has built-in thyratron controlled timer. It weighs only 26 lb and has polished aluminum housing. Welds can be made in most alloys of aluminum as well as mild, stainless, galvanized and cadmium steels and other metals to a total of 3/16-in. combined thickness. Welder operates on 220-240-v 60-cycle ac and develops an electrode pressure to 1000 lb and amperage of over 12,000 amp at point of weld. Standard model, priced at $180, has 7-in. throat depth and 3-in. opening. Additional throat depths up to 18 in. and special shaped arms and tips are optional. Mounting stand converts unit into foot-operated floor model. Adapters permit changeover to water cooling. Made by **Ross Machine Tool Co.**, Dept. 26, 7631 S. Ashland Ave., Chicago 20, Ill.

▲ For more details circle NED-195 C3 on enclosed inquiry slip ▲

DO YOU KNOW? Twenty industry and government scientists comprise the advisory committee for the first Basic Materials Conference which will be held concurrently with the initial Exposition of Basic Materials at Grand Central Palace, New York City during the week of June 15-19, 1953. The conference will be staged at the Hotel Roosevelt. Full information available from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

▲ For more details circle NED-196 C3 on enclosed inquiry slip ▲

The New CLEARVIEW NAMEPLATE PRESS

EASY TO OPERATE • COMPACT • DURABLE

Here at last is a new low-priced Nameplate Press that will pay for itself quickly and many times over.

Now you can stamp neat, perfectly aligned letters and figures on all types of identification plates with this new, easy-to-operate Nameplate Press: MACHINERY DETAIL PLATES KEYS — TAGS — CHECKS IDENTIFICATION PANELS and scores of other identification purposes.

ELIMINATES OBSOLETE STAMPING BY HAND

- Stamps Neat Uniform Characters
- Fully Automatic Letter Spacing
- High Quality Hardened Steel Dial
- Interchangeable Dial Adjustment
- Accommodates Plates up to 4" x 8"
- Prevents Irregular Alignment—Spacing—Depth

FULLY GUARANTEED

Write, call or wire today for complete information and price.

PERMANENT IDENTIFICATION—It is often hard to keep tab on various pieces of equipment because of inadequate or temporary methods of identification marking. A solution to this dilemma may be the metal stamping machine illustrated.

The CLEARVIEW Company
149 E. Houston St. New York, N. Y.

▲ For more details circle NED-197 C3 on enclosed inquiry slip ▲

USE RESISTANCE WELDING TO STREAMLINE PRODUCTION

WS WF

Ohio Nuts for Projection Welding

WS Thread Sizes 6-32 to ½-20
WF Thread Sizes 6-32 to ½-20

Material: Low carbon steel

For samples and information about these and other Ohio parts, send to:

THE OHIO NUT & BOLT COMPANY
33 First Ave., Berea, Ohio

▲ For more details circle NED-198 C3 on enclosed inquiry slip ▲

Save Valuable Cutting Tools WITH WEBBER INDUSTRIAL FREEZERS

TRADE MARK REGISTERED

★ By the treatment of cutting tools in temperatures to —125°F., in Webber Industrial Freezers, plant supervisors in many of America's large industrial plants report that tool life has been increased as much as 490%. Much less set up time is required because tools last longer. Tools received from the manufacturer a trifle undersized are saved by cold treatment and extended tool life on extremely difficult jobs which a tool formerly served for only one cut has been materially increased. By the stabilizing of metals at —125°F., a permanent accuracy and stability which would be impossible otherwise is accomplished. This treatment performs in a matter of hours the equivalent of four to eight years of natural aging. There's a Webber Unit for every industrial need.

Write for new bulletin giving more complete information.

INDUSTRIAL FREEZER DIVISION
WEBBER APPLIANCE CO., INC.
A-2740 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

▲ For more details circle NED-199 C3 on enclosed inquiry slip ▲

"Weld-Bilt" EQUIPMENT GIVES YOU LONGER SERVICE IN LABOR-SAVING MATERIALS HANDLING

You can SEE the greater strength and durability in WELD-BILT Equipment . . . in heavier arc-welded construction, in sturdier operating parts, in many innovations that assure easier, friction-free operation. Every piece of "Weld-Bilt" equipment is designed to save operator fatigue, protect product and save money both on original cost and maintenance expense.

You can easily PROVE "Weld-Bilt's" superiority through many more years of actual performance in hundreds of plants all over the Nation. It means your lowest possible investment-per-year in time and labor saving.

"Weld-Bilt" PRODUCTS
WEST BEND EQUIPMENT CORP. WEST BEND, WIS.

Write or wire for prices today . . . or for engineering assistance on your handling problems or plans.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

▲ For more details circle NED-200 C3 on enclosed inquiry slip ▲

Don't take Chances..

with a

FLY SPECK!

"Your job ticket can be more valuable than a legal document. It must never be open to misunderstanding, or to grimy hands—or hungry flies!

So slide your production record into a crystal clear plastic envelope, and keep it there. Let your instructions stay clean, sharp, readable—in spite of rough handling. Only then will you reduce alibis, and costly mistakes.

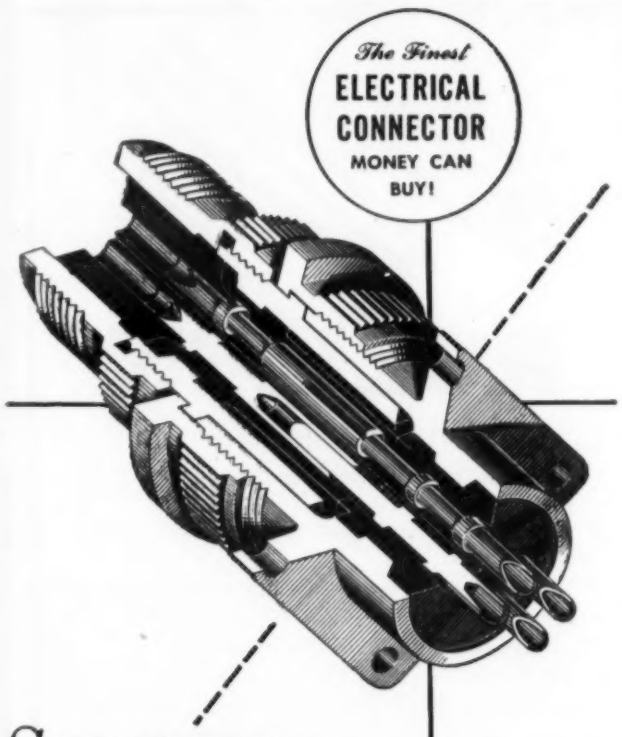
Send for your FREE Kleer-Vu envelope today!

See what a difference it makes in speeding up production!

AMERICAN KLEER-VU PLASTICS, INC.

57 Thames St. Brooklyn 37, N. Y.

▲ For more details circle NED-201 C3 on enclosed inquiry slip ▲



SCINFLEX **ASSURES**

LOW MAINTENANCE BECAUSE

IT PERMITS SIMPLICITY

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX

ELECTRICAL CONNECTORS

Bendix

SCINTILLA MAGNETO DIVISION of

SIDNEY, NEW YORK

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

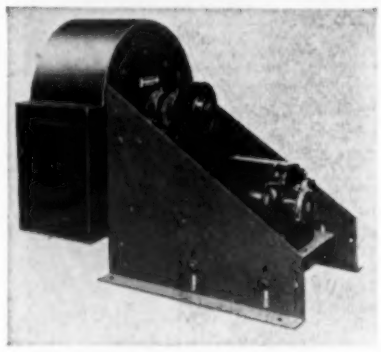
▲ For more details circle NED-202 C3 on enclosed inquiry slip ▲

AIR IMPACT PRESS
performs variety of operations

Up to 10,000 strokes per hour are possible with the model 52 air impact press for marking, assembling, branding, staking, crimping, riveting and light stamping operations. Pressures up to 8 tons can be obtained from a 100-lb air line. Press can be adjusted to give proper ram action required for branding or color leaf marking. Actuation is by hand, foot or electrical controls and automatic controls make possible high production. It also marks uniformly where variations exist in material thickness. Made by **Cadillac Stamp Co.**, Dept. NE, 17315 Ryan Rd., Detroit 12, Mich.

▲ For more details circle NED-203 C3 on enclosed inquiry slip ▲

SLOW SPEED FANS
have adjustable air delivery



Quiet in operation, No. 76 and No. 91 belted junior fans have a slow speed wheel and can be used for small ventilating applications. Cast aluminum wheels are NAFM type spark resisting construction, but steel wheels are available for applications where aluminum is not suitable. V-belt drives have an adjustable motor sheave giving speed adjustments of 30 to 50 per cent, depending upon motor selected. No. 76 fan can be driven by 1/6, ⅓, ½ and ¾-hp motors, with operation at different speeds and static pressures giving it capacities from 360 to 1120 cfm. Model 91 uses the same motor sizes and has capacity ratings from 510 to 1400 cfm. Made by **New York Blower Co.**, 3166 S. Shields Ave., Chicago 16, Ill.

▲ For more details circle NED-204 C3 on enclosed inquiry slip ▲

DO YOU KNOW? A manufacturer of roller mills and other machinery used by the paint, ink, chocolate and soap industries is seeking one or two more new items of production equipment to manufacture. They would like to get in touch with owners of patents on equipment which fits into the above fields or can be produced in their plant. If interested, please contact Mr. Charles G. Thoma, Thoma & Gill, 505 Main St., East Orange, N. J.

▲ For more details circle NED-205 C3 on enclosed inquiry slip ▲

NEW DISC CLUTCH

for gasoline engines, electric motors, speed reducers, etc.

operates with light pressure
picks up load without grab

integral V-belt pulley

integral sprocket

cut-off coupling or sleeve

easy manual operation

adjustable

powerful

For stub or through shaft application, these new Type K clutches—rated up to .8 HP at 100 rpm—have generous safety factors throughout to stand severest service. Threaded steel adjuster permits precise easy adjustments to assure maximum capacity and minimum engaging pressure. Clutch locks itself in engaged position.

Write for new descriptive Bulletin K-1, including complete specifications.

THE EDGEMONT MACHINE CO.

2200 HOME AVENUE • DAYTON 1, OHIO

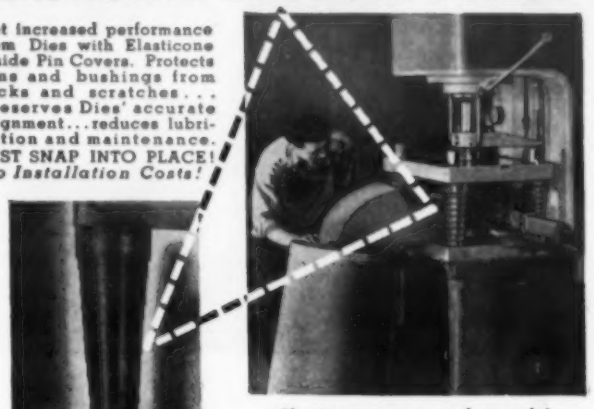
▲ For more details circle NED-206 C3 on enclosed inquiry slip ▲

DIE LIFE INCREASED 25%

with

ELASTICONE GUIDE PIN COVERS

Get increased performance from Dies with Elasticone Guide Pin Covers. Protects pins and bushings from nicks and scratches . . . preserves Dies' accurate alignment . . . reduces lubrication and maintenance. JUST SNAP INTO PLACE! *No Installation Costs!*



Investigate today the many new cost-saving engineering advantages in die designing with Elasticones.

Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Write for full information and literature.

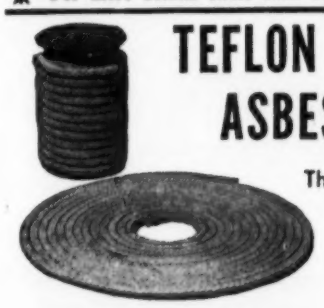
CENTRAL

2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

▲ For more details circle NED-207 C3 on enclosed inquiry slip ▲

▲ For more details circle NED-208 C3 on enclosed inquiry slip ▲



TEFLON IMPREGNATED ASBESTOS PACKING

The Advantages of Teflon
PLUS
Greater Resiliency
Moderate Cost

Chemically inert, heat-resistant, anti-hesive Teflon has solved many packing problems. But under certain conditions, Teflon's cold-flow characteristic causes trouble. The solution to cold-flow is Flexrock #401 braided white asbestos packing impregnated *throughout* with Teflon.

#401 offers solid Teflon's advantages *plus* superior resiliency, permitting a tight, lasting seal at low gland pressure, against *acids, alkalis and solvents.* #401 is versatile, eliminates the need for costly, machined Teflon rings. Stock it for applications demanding absolute *non-corrosion, non-contamination.* Won't "seize" a shaft or spindle; serviceable from −100°F. to 500°F. In continuous lengths, square section, from ⅛" to 1" by 1/16" increments.

We furnish a complete line of *Teflon Packing:* solid or impregnated in endless ring or continuous braided construction; *Teflon Gaskets:* solid or jacketed; *Teflon Stock:* sheets, tape, cylinders, rods, tubing, bars. *Also, special shapes.*

Mechanical Packing Division

FLEXROCK COMPANY

PHILADELPHIA 4, PA.

Mechanical Packing Division
FLEXROCK COMPANY
3603 Filbert Street, Phila. 4, Pa.

☐ Send more information on #401 Packing
☐ Send information on these other Teflon products _____

Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

Please clip coupon to Company letterhead

▲ For more details circle NED-209 C3 on enclosed inquiry slip ▲

PERECO *Electric* FURNACES

MODEL TF-24

Operating temperature 2400° F.

For Heat Treating and Porcelain Enameling

Where you need a roomy work chamber (36" w. x 48" d. x 24" h.) this new model TF-24—typical of the line of Pereco Electric Kilns—offers "top" performance from every standpoint. Globar elements deliver closely controlled temperatures over the full range up to 2400° F. Powered for extremely rapid "recovery" time. Counterbalanced door is foot controlled. Ideal for wide range of work—including heat-treating and porcelain enameling. Handles 350 lbs. of metal per hour. Atmosphere-tight, all-welded steel construction.

Write Today For Details

For your specialized need Pereco offers standard or special units from 450°F. to 5000°F.

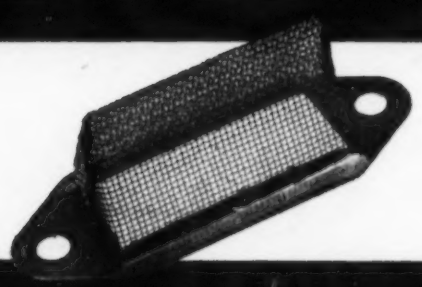
PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd., Columbus 12, Ohio

For more details circle NED-210 C3 on enclosed inquiry slip

NEWARK Fabricated WIRE CLOTH PARTS

Available — a well-equipped plant with highly experienced fabricators.



Available — mesh cloth and space cloth made in our own plant.

All under one roof

Do you require parts made with one or more pieces of mesh cloth or space cloth — anything from 4 inch openings down to 325 mesh (105,625 holes/sq. in.)?

Our experienced fabricating service should be of value. We are in position to handle volume order business and, if desired, will be glad to help in designing the part requiring the metallic cloth. We know how to insert and fasten metallic cloth to get best results. We carry many standard sizes of wire cloth in stock. We have ample loom facilities to weave special cloths if necessary. We can handle any wire of any malleable metal.

This fabricated parts division of our business has grown by leaps and bounds. We have had many repeat orders. It could be due to the quality of wire cloth used and the care with which this cloth is assembled into the parts being fabricated.

NEWARK for ACCURACY

Ask for General Catalog "D".

Newark Wire Cloth COMPANY

351 VERONA AVENUE • NEWARK 4, NEW JERSEY

Philadelphia 3, Penna. 6311 Widener Bldg. | San Francisco, Calif. 3100 19th St. | Chicago, Ill. 20 N. Wacker Dr. | New Orleans, La. 520 Maritime Bldg. | Los Angeles, Calif. 1400 So. Alameda St. | Houston, Texas P. O. Box 1979

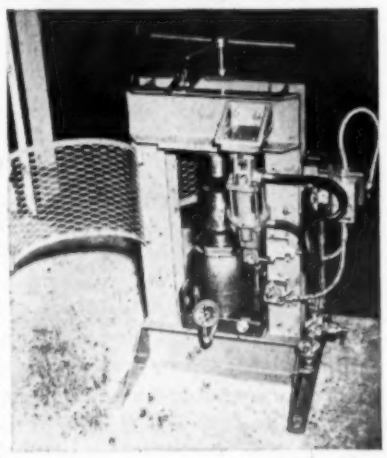
For more details circle NED-211 C3 on enclosed inquiry slip

WORK POSITIONER
table speed is variable

Welding, brazing, soldering, tinning, cutting and metallizing can be performed on the Unique electrically turned, variable speed work positioner. Other applications include assembly of various types of equipment and spray application of surface coatings. Unit is easily portable, weighing 31 lb and requiring an area of 20 x 18 x 5½ in. The 15½-in. diameter table can carry work load of 300 lb at speeds adjustable upward from ¼-rpm. Offered with foot switch, it operates on 110-v 60-cycle ac. Available from **All-State Welding Alloys Co.,** 249 Ferrisden Ave., White Plains, N. Y.

For more details circle NED-212 C3 on enclosed inquiry slip

TUBING TEST STAND
determines physical characteristics



Physical characteristics of any seamed tubing up to 3 in. diameter can be determined by this automatic air and hydraulically actuated test stand. Test specimens of steel, stainless steel and carbon steel tubing can be checked for flaring, column and crushing strength with pressures up to 100,000 lb. Stand is self-contained, has a hinged safety guard and requires only connection to 60-80 lb air supply. Operation is by solenoid and pushbutton control after the test specimen is inserted between anvils. Made by **Dommers Co.,** 426 S. Cherry St., Wallingford, Conn.

For more details circle NED-213 C3 on enclosed inquiry slip

DO YOU KNOW? Two new stencils especially designed for the duplication of legal documents have been announced. It thus becomes possible to produce as many "original" copies of a legal document as are needed for a particular purpose, and only one typing and one copyreading operation are necessary. Line numbers are die impressed on one stencil and a double line is die impressed about 1 2/5 in. from the left edge on the other. Both reproduce. Made by A. B. Dick Co., Dept. NEW, 5700 W. Touhy Ave., Chicago 31, Ill.

For more details circle NED-214 C3 on enclosed inquiry slip

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES

Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

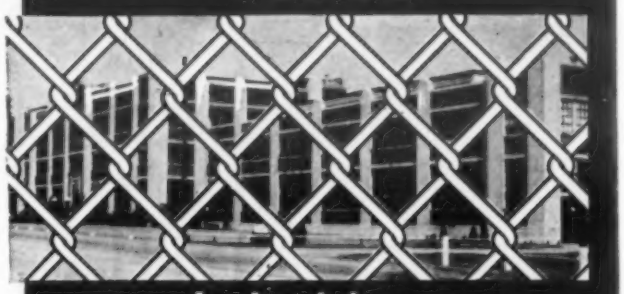
CONVOY, INC.

Canton 6, Ohio

P. O. Station B, Box 216-N

For more details circle NED-215 C3 on enclosed inquiry slip

REALOCK FENCE



gives **locked-in** protection

All fittings on Realock Fence have bolts so placed that nuts cannot be removed from the outside. This means that Realock Fence provides *added protection* for your grounds and property . . . effectively discourages tampering by would-be trespassers.

Strongly constructed, Realock Fence has high resistance to the elements because of a special galvanizing process . . . gives permanent protection and trouble-free service year after year. For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION — Denver, Colorado

THE CALIFORNIA WIRE CLOTH CORPORATION — Oakland, California

WICKWIRE SPENCER STEEL DIVISION — Buffalo, New York

REALOCK FENCE

THE COLORADO FUEL & IRON CORPORATION CF&I

BRANCHES IN ALL KEY CITIES

For more details circle NED-216 C3 on enclosed inquiry slip

Design information—

dia. from 1/16" to 1/2"

ROLLPIN

. . . the slotted tubular steel pin with chamfered ends

- Easily driven into holes drilled to normal production tolerances
- Self-locking . . . exerts constant pressure against hole walls
- Easily removed with drift or pin punch
- Fits flush . . . is reusable

Offers assembly-time savings over rivets, set screws, straight, serrated or cotter pins, dowels, hinge pins and many others.

WRITE for detailed catalog—Elastic Stop Nut Corporation of America, 2330 Vauxhall Road, Union, N. J. Address Dept. R18-337.

For more details circle NED-217 C3 on enclosed inquiry slip

If you have a labeling problem ordinary labels can't solve...use

AVERY Kum-Kleen self-adhesive LABELS

...the tough ones are our specialty

...where other types of labels are found "wanting"...or when you need to substitute an attractive pressure-sensitive label for a costly nameplate... Avery Kum-Kleen labels are the *best* solution to your problem!

...and so are the other kind..

...where you want *faster* labeling... improved appearance...labels that won't pop, curl or peel...or those the housewife can remove without soaking or scraping...there's no substitute for an Avery Kum-Kleen label!

faster • easier • more economical

Patented Avery dispensers...manual or electric... feed die-cut *pressure-sensitive* labels off roller tape, ready to be LAID ON any clean, smooth surface. No moistening...no sticky fingers.

Where can YOU use these labels in YOUR business? Write today for free samples, case histories and prices.

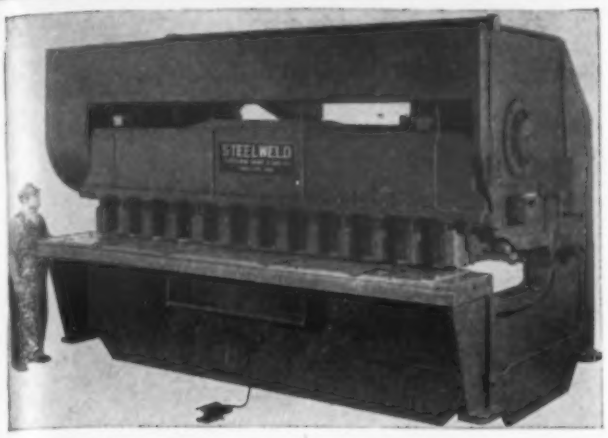
AVERY ADHESIVE LABEL CORP., DIV. 102

117 Liberty Street, New York 6 • 608 South Dearborn Street, Chicago 5

1616 So. California Ave., Monrovia, Cal. • Offices in Other Principal Cities

Originators of Pressure-Sensitive Labels

For more details circle NED-218 C3 on enclosed inquiry slip



CUTS 12' FEET 3/4 INCH STEEL PLATE

1. 30 strokes per minute.
2. Operated by electric foot switch.
3. Cuts by pivoted-blade principle.
4. Fast Micro-Set knife adjustment.
5. 36-inch throat permits slitting wide plate.
6. Lift-up type ball-bearing back gauge.
7. Heavy welded one-piece steel frame.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

THE CLEVELAND CRANE & ENGINEERING CO.
6630 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

For more details circle **NED-219 C3** on enclosed inquiry slip

LOOK

FREE fan catalog for '53!

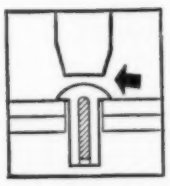
New models, new finishes have been added to the Emerson-Electric fan line—most complete fan line in America. See these fans for every commercial, industrial and institutional use. For free catalog write Dept. T117.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

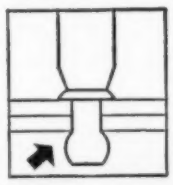
EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

For more details circle **NED-220 C3** on enclosed inquiry slip

ALL 3 SIZES OF
DU PONT EXPLOSIVE RIVETS



1. Touch head of Explosive Rivet with heated Du Pont Riveting Iron. (Note tiny explosive charge in Rivet shank.)



2. Almost instantly . . . charge expands, forming a barrel-shaped head on shop end of Rivet that sets it in place.

Save Fastening Dollars

Du Pont Explosive Rivets are supplied in 3 sizes: 1/8"—5/32"—3/16" diameters. Each size offers a wide grip-length range . . . fastens varying thicknesses of material. Cuts inventory. Smooth head of expanded Rivets eliminates need for after-finishing, reducing fastening costs. Send for manual containing complete information. Contact nearest Du Pont Refinish Service Warehouse or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Dept., 2535 Nemours Bldg., Wilmington 98, Del.

DU PONT *Hi-Speed*
INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DU PONT — Better Things for Better Living . . . *through Chemistry*

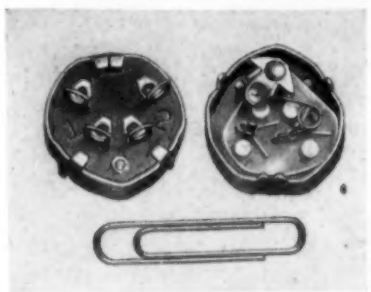
For more details circle **NED-221 C3** on enclosed inquiry slip

SUBMERSIBLE PUMP
operates when water level rises

Entire Fig. 4667 submersible cellar drainer can be submerged without damaging the motor which is sealed in stainless steel case. Motor starts when water level rise lifts motor case and actuates a sealed switch. Centrifugal pump is made of bronze with hard rubber semiopen impeller. A perforated brass strainer prevents refuse from entering. Motor is ⅓-hp, 115 v, 60 cycle, 1750 rpm, split phase. It has two grease sealed-for-life bearings and overload protection with automatic reset, 11-ft waterproof cord, and 1¼-in. pipe connections. Capacity ranges from 1200 gph against a 22-ft head to 3000 gph with a 5-ft head. Made by **Deming Co.**, Dept. NE, Salem, O.

For more details circle **NED-222 C3** on enclosed inquiry slip

HEAVY DUTY LINE SWITCHES
for auto radio and TV uses



Rated 12 amp at 12 v dc, type A-12 DP-ST line switch shown at left will handle high currents at low voltages in auto radio and similar circuits. It measures ⅞ by 9/32-in. and attaches to LR and LP standard volume controls. Hot tin-dipped terminals are locked in position by means of ears and rivets and will hold heavy wires without loosening. At right is shown A-13 SP-DT switch rated 3 amp at 125 v ac or dc. Use is in combination receivers to switch common power from radio to TV, or to short circuit power supply when TV receiver is turned off, preventing beam spot burn to cathode ray tube coating. Contact surfaces are silver plated. Made by **Stackpole Carbon Co.**, Electronic Components Div., Dept. NED, St. Marys, Pa.

For more details circle **NED-223 C3** on enclosed inquiry slip

DO YOU KNOW? The step-by-step techniques of producing steel cartridge cases are the theme of 16-mm color-sound motion picture which deals with the role hydraulic presses play in transforming flat steel disks into 24-in. long steel cartridge cases. This movie, "A Better Way To Manufacture Shell Cases", is offered for free showings by Clearing Machine Corp., 6493 W. 65th St., Chicago 38, Ill.

For more details circle **NED-224 C3** on enclosed inquiry slip

WIRE-BRAIDED RUBBER HOSE IN *Economy* LENGTHS

Now! From the world's most modern factory comes a complete line of wire-braided rubber hose in lengths economically adaptable to your requirements!

Republic WIRETEX Hose has all the desirable characteristics of flexible, high-quality rubber hose. It bends naturally to fit any connection. It's not weakened by vibration or flexing. It resists temperature variances between —40°F. and +200°F. It's oil, grease and abrasion-resistant and won't rust or corrode.

Republic WIRETEX Hose is reinforced with multiple wire braids that maintain diameter dimensions despite high pressures from 400 to 5,500 p.s.i. Republic WIRETEX Hose is available with rubber or textile covers. Get the facts today! For high, medium or low-pressure carriers for any gases or liquids of great strength, flexibility and long life, your answer is Republic WIRETEX!

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle **NED-225 C3** on enclosed inquiry slip

TRI-LOK
safety steps

"A STRONG STEP TO SAFETY"

Each Tri-Lok step consists of a panel of Rectangular, Diagonal, or U-type Tri-Lok flooring in any desired width, length, depth, and bar spacing.

SAFE—checker plate nosing bars make each step stand out clearly. Abrasive edging also available.

CLEAN—clogless, rivetless Tri-Lok joint prevents accumulation of dirt, moisture, rust.

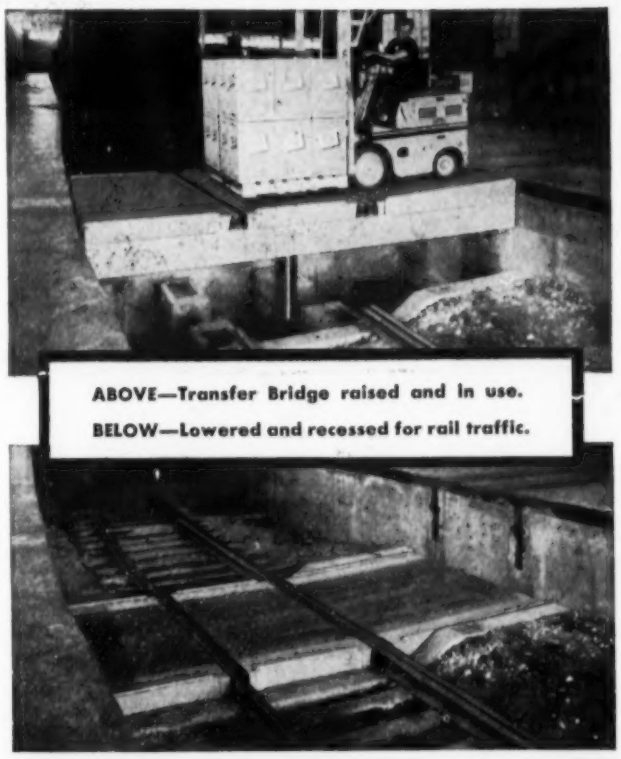
STRONG—added strength provided at maximum load contact by shape and rigidity of nosing bar.

Write today for bulletin PL-1103

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

For more details circle **NED-226 C3** on enclosed inquiry slip

Oildraulic® Transfer Bridges
CLOSE THE GAP ACROSS SPUR TRACKS



ABOVE—Transfer Bridge raised and in use.
BELOW—Lowered and recessed for rail traffic.

Eliminate detours . . . speed up plant traffic

This hydraulically operated bridge forms a roadway over spur tracks to cut out costly detours and time-consuming congestion. Recessed rails become a part of the track when bridge is lowered. The Transfer Bridge is raised and lowered by a powerful Oildraulic jack, operated on the same principle as Rotary elevators and auto lifts. Power is supplied by a simple, inexpensive power unit. Dual jacks, automatically equalized, can be furnished for long spans, wide bridges, heavy loads.

Drawbridge and other types of transfer bridges are also built by Rotary to fit the plant layout and the job to be done. Mail coupon for catalog and complete data.

See our exhibit at Materials Handling Exposition May 18-22—Philadelphia

MAIL NOW FOR CATALOG

ROTARY LIFT CO.,
1062 Kentucky, Memphis 2, Tenn.

Send catalog on Oildraulic Transfer Bridges to:

Name.....

Address.....

.....

Rotary®

Oildraulic® Transfer Bridges

For more details circle **NED-227 C3** on enclosed inquiry slip

MERRILL MATERIALS HANDLING DEVICES

MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

▲ For more details circle NED-228 C3 on enclosed inquiry slip ▲

—Wherever you need them!

STACKBIN sections will give you a stockroom wherever you want it—quickly and easily as building a sectional book case. These patented sectional storage bins nest together without the use of tools—cost you nothing to build, nothing to move. Find out today how STACKBINS can lower YOUR handling costs.

IMMEDIATE SHIPMENT
Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa
Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ For more details circle NED-229 C3 on enclosed inquiry slip ▲

THERE'S ROOM FOR THIS FOOT SAFETY IN ANY BUDGET

Economical is the word for A.W. SUPER-DIAMOND Safety Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost.

SUPER-DIAMOND gives real underfoot safety. Its exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. SUPER-DIAMOND means low-cost maintenance. It's easy to clean with hose, mop or broom—and has no cracks or corners to catch and hold dirt. Finally, SUPER-DIAMOND lasts a lifetime. It withstands hard blows and heavy loads—resists heat, fire and most chemicals.

Pattern shown ½ actual size

For safety with economy, learn the facts about A.W. SUPER-DIAMOND. The handy coupon brings you our newest booklet on floor safety.

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-44 on SUPER-DIAMOND safety.

*Name*_____
*Company*_____
*Address*_____ *City*_____ *State*_____

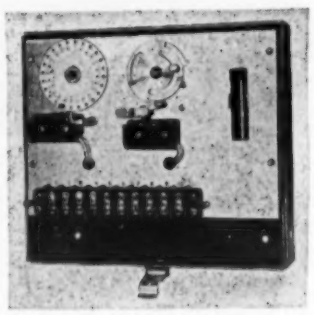
▲ For more details circle NED-230 C3 on enclosed inquiry slip ▲

DRILL PRESS CLAMP holds odd-shaped articles

All popular makes and models of drill presses can accommodate the Sta-Put drill press clamp, designed to hold virtually any shaped object squarely and securely for accurate drilling. The 3-lb aluminum clamp fits on the drill press column, is quickly and easily adjusted and is swung to one side for set up of work. Tension is obtained by turning an adjusting knob. The pressure fork is adjustable from 7¼ in. minimum to 8¼ in. maximum from the press column. Made by **Clark & Sawyer, Inc.**, 2010 E. Seventh St., Los Angeles 21, Calif.

▲ For more details circle NED-231 C3 on enclosed inquiry slip ▲

DUAL RANGE CYCLE REPEATER consists of two interlocked timers



In applications where short, variable-duration "on" time is required at infrequent intervals, as in boiler water-feed pumping and central lubricating systems, the CR3MB-KT2 dual-range cycle repeater offers practical use. Duration of "on" time is regulated by cam type dial which is in turn regulated, as to frequency of operation, by removable, pin-type dial. For uses where wide adjustability is required, small JW series cycle repeaters are used. Designed for permanent mounting, they are adjustable from zero to 90 per cent of dial so that circuit may be switched on for any number of minutes out of each cycle. Made by **Paragon Electric Co.**, Dept. NED, Two Rivers, Wis.

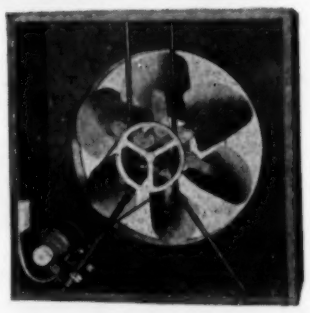
▲ For more details circle NED-232 C3 on enclosed inquiry slip ▲

DO YOU KNOW? A new publication devoted primarily to new and interesting applications of Lustrex styrene molding compounds, Vuepak cellulose acetate sheets, Ultron vinyl chloride film and Resinox phenolic molding compounds to packages, premiums and displays has been launched under the name "Plastics Packager." It will be issued periodically and will be sent free to officials in the above fields. Published by Monsanto Chemical Co., Plastics Div., Dept. NED, Springfield 2, Mass.

▲ For more details circle NED-233 C3 on enclosed inquiry slip ▲

Industrial ventilating Power with quietness

Reed COMMERCIAL and INDUSTRIAL FANS



For cooling and ventilating large areas, for rapid air changes, for problem installations where space is at a minimum, choose the Reed RUF-C commercial fan. They are rugged, super-quiet, with power to spare. Reed quality means a lifetime of trouble-free service.

Cat. No.	ASHVE CFM* Free Air	1" S.P.	Overall Dimensions	Motor 115v.-60cy. Single Phase	Blade Speed RPM	Shipping Weight
RUF-24C	5,000	4,240	36" x 36" x 14"	⅛ hp	695	130 Lbs.
RUF-30C	7,800	6,740	42" x 42" x 14"	⅓ hp	541	150 Lbs.
RUF-36C	11,000	9,650	48" x 48" x 16"	½ hp (115/230v.)	475	183 Lbs.
RUF-42C	15,000	11,400	52" x 52" x 16"	½ hp (115/230v.)	350	220 Lbs.
RUF-42CX	17,100	13,600	52" x 52" x 16"	¾ hp (115/230v.)	394	230 Lbs.
RUF-48C	22,250	17,900	58" x 58" x 16"	1 hp (115/230v.)	359	270 Lbs.

*Certified Air Deliveries

Single Phase motors standard. Other type motors available.

Reed UNIT-FANS, INC.
1001 SAINT CHARLES ST., NEW ORLEANS, U. S. A.

WRITE FOR DETAILS TODAY

▲ For more details circle NED-234 C3 on enclosed inquiry slip ▲

THE Workhorse OF SMALL GRINDERS

Aro Short Grinder Model 7149, 17,000 R.P.M.

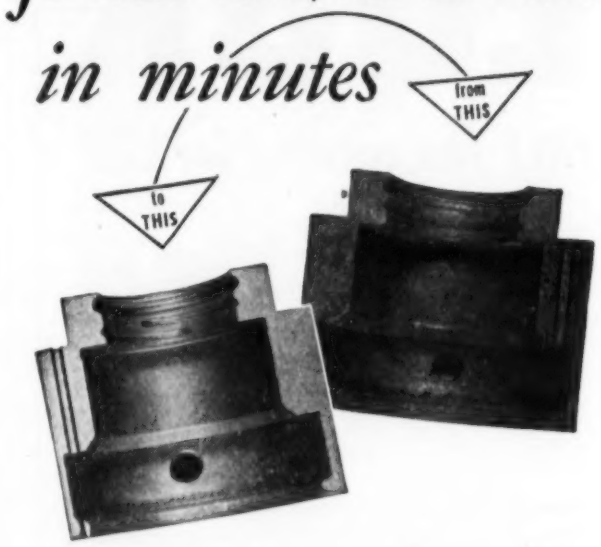
ARO does it *faster* . . . at *lower cost!* That's why Rohr Aircraft at San Diego—and hundreds of other progressive plants today — prefer ARO. Complete line grinders for jet engines . . . also heavy duty vertical and horizontal grinders of all types. Write for new catalog 60. The Aro Equipment Corp., Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO AIR TOOLS

Also . . LUBRICATING EQUIPMENT . . HYDRAULIC EQUIPMENT . . AIRCRAFT PRODUCTS . . GREASE FITTINGS

▲ For more details circle NED-235 C3 on enclosed inquiry slip ▲

finish TOOLS, DIES and MOLDS *in minutes*



. . . and *save hours* with LIQUAMATTE wet blasting

It takes only 30 seconds to 10 minutes to finish tools, dies, molds, engine parts, etc. with a Liquamatte—an operation that formerly required 1 to 6 hours by hand methods. Scale, fine burrs and grinding lines are removed in a fraction of the time previously possible. For example, savings as high as 80% have resulted on some parts at the Oling Tool Company.

Liquamatte Wet Blasting has eliminated many manual surfacing operations, transforming precision finishing into a mass production operation. It has eliminated all manual polishing except on surfaces where a mirror finish is desired. And the mirror finish is achieved in far less time on a Liquamatte finished surface.

See how Liquamatte Wet Blasting can save time and money for you.

Send today for the bulletins of your choice below.

THESE BULLETINS TELL HOW

Save Time on Tools, Dies, Molds. Bulletin 43 — Save Time on Glass Molds Bulletin 53 — Save Time on Plastic Molds. Bulletin 63

American LIQUAMATTE WET BLASTING
WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St., Mishawaka 8, Ind.

▲ For more details circle NED-236 C3 on enclosed inquiry slip ▲

FOR EVERY CONTROL NEED!

THERE IS A SELECTION of Allis-Chalmers starters from which you can choose the one just right for your needs. For example, if you need across-the-line starters to control motors operating on 110 to 600 volts:

Manual Starters are small, inexpensive, suitable for mounting on small machines. Start and stop buttons are on the starter. Sizes 0 and 1 for motors to 7½ hp.

Magnetic Starters offer the convenience of either local or remote control . . . provide thermal overload protection and undervoltage protection or release. Sizes range from 0-7 for motors from fractional to 600 horsepower.

Combination Starters save installation time and wiring costs when both a magnetic starter and a disconnect switch are required. Sizes 0-5 for motors to 200 horsepower.

Contact your nearby A-C representative, or write Allis-Chalmers, Milwaukee 1, Wisconsin for Bulletin 14B7132.

A-3636

ALLIS-CHALMERS

▲ For more details circle NED-237 C3 on enclosed inquiry slip ▲

LONGER Anode Life . . . With *Udylite* Ferrolum

Udylite Ferrolum Anodes are made with a STEEL core, clad with lead . . . the molecules of both metals are bound inseparably together. The anodes can't crack or peel no matter how they are bent or twisted. As a result, Ferrolum Anodes combine high, even electrical conductivity with the finest corrosion resistance . . . PLUS great rigidity and strength!

New Udylite Ferrolum Anodes offer exceptionally long life. That means long-range economy as well as low initial cost. They offer more uniform deposits too, with less build-up of insulating film and shorter plating time. Also, Udylite Ferrolum Anodes are much lighter in weight.

These new anodes are available in type I, Chemical Lead Clad, type II, Tin-Lead Clad, and type III, Antimonial Lead Clad.

Get the full story on these NEW Udylite Ferrolum Anodes from your Udylite technical man today, or write direct. THE UDYLITE CORPORATION, DETROIT 11, MICHIGAN.

Check these Advantages —

1. Economical cost.
2. Better and more uniform conductivity.
3. Great rigidity and strength.
4. Lightness in weight.
5. Less build-up in insulating film.
6. Longer Life.

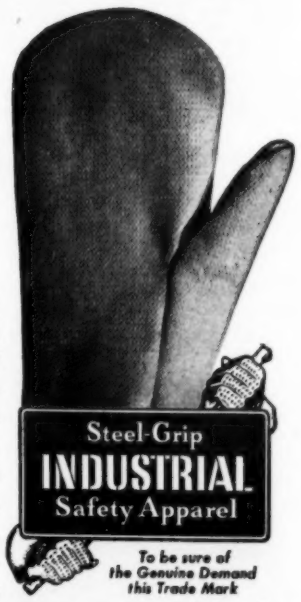
THE UDYLITE CORPORATION
DETROIT 11, MICHIGAN
PIONEER OF A BETTER WAY IN PLATING

▲ For more details circle NED-238 C3 on enclosed inquiry slip ▲

"WOVEN-Gards"

BETTER HAND PROTECTION

at amazing low cost



"Woven-Gards" are hand protectors, mitts, pads, sleeves and aprons made of a long wearing woven cotton safety material. Provide flexibility, comfort, resistance to abrasion and cutting. Highly oil absorbent. Excellent for handling oily, slippery sheets. Porous weave makes them the finest protector for handling lower temperature jobs. Excellent protection at lowest cost. We manufacture a complete line of industrial safety apparel. Write for free catalog with price list.

INDUSTRIAL GLOVES COMPANY, 1521 Garfield Street, Danville, Illinois
A Corporation
(In Canada: Safety Supply Co., Toronto)

▲ For more details circle NED-239 C3 on enclosed inquiry slip ▲

FLEXIBLE COUPLING
one-hub design saves space

A standard type C coupling with one hub cut off, this modified coupling has three or more holes tapped in the remaining flange. These holes are used to fasten it to the center of the flywheel. Design makes it "crawl" into the flywheel and saves the space normally taken up by the conventional hub length. In all other respects it is identical with the regular type C coupling. Made by **Lovejoy Flexible Coupling Co.**, 5003 W. Lake St., Chicago 44, Ill.

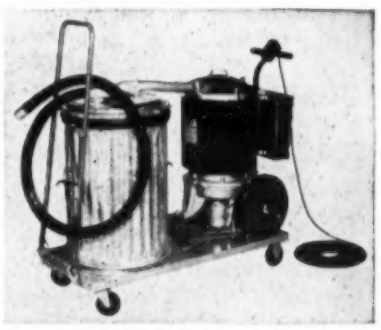
▲ For more details circle NED-240 C3 on enclosed inquiry slip ▲

SOLDERING IRON
gun type heats instantly

Light plastic gun grip on the Trig-R-Heat soldering iron makes it easy to handle and aim. Working temperature is reached within a few seconds after the trigger control is touched. Thermostatic Brain prevents iron from getting too cool for efficient soldering or too hot for tip safety. Besides this thermostatic action, it has a switch-controlled spotlight. Operation is on 115-120 v, ac or dc and wattage starts at about 4000 w and idles at 100 w. Made by **Wall Mfg. Co.**, 380 Erie St., Grove City, Pa.

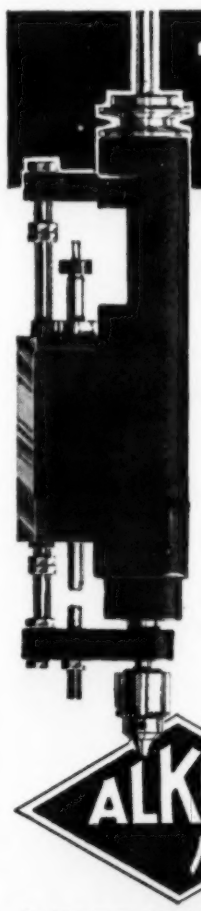
▲ For more details circle NED-241 C3 on enclosed inquiry slip ▲

SUCTION CLEANER TRUCK
carries suction unit and tank



The 44½-in. length and 19¼-in. width of this platform truck provide ample room for carrying a Kent suction cleaner and a 27-gallon tank for dirt and liquids. Four spring clamps hold both the suction unit and the tank in place. Tank is easily unclamped for emptying, and the vacuum cleaner can be removed for use as a portable vacuum or blower unit. Truck is mounted on four 4-in. Bassick casters, the two in front being the swivel type. The 39-in. long handle has an adjustable tension spring. Change from wet to dry pickup is made by changing tanks. Made by **Kent Co.**, 312 Canal St., Rome, N. Y.

▲ For more details circle NED-242 C3 on enclosed inquiry slip ▲



16 x 3 3/4 x 1 15/16

these are the overall dimensions of

ALKON'S

HYDRAULICALLY CONTROLLED AIR-POWERED DRILL UNIT FOR HIGH SPEED PRODUCTION

Today's new tooling problems demand new production tool designs to solve them. Alkon's new Air-Powered Drill Unit is compact and flexible allowing a tremendous choice in set-ups, power, and operating R.P.M.'s. It's completely controllable for stroke to and from the work, for rate and feed through the work, easily solving difficult multiple drilling operations.

Investigate NOW! Write for brochure NED of specifications and detailed information.

ALKON *products corporation*
698 EAST 142nd ST. • NEW YORK 54, N. Y.

▲ For more details circle NED-243 C3 on enclosed inquiry slip ▲

Silent Dependability

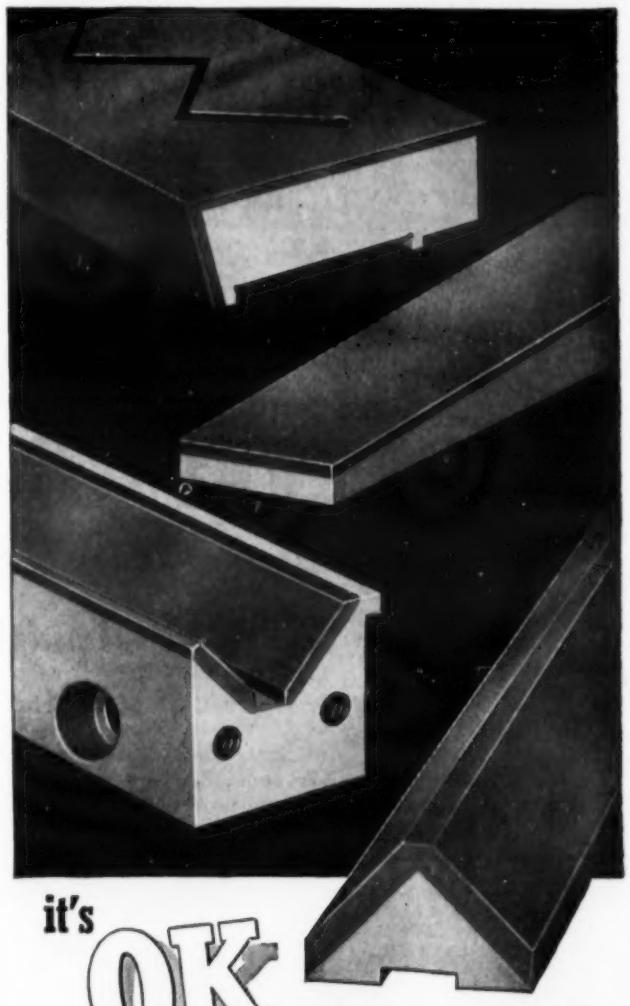
AHLBERG ED and EDR SERIES PILLOW BLOCKS

Here are superb, high speed power-transmission bearings specifically designed for air conditioners, fans and blowers . . . precision constructed for silence, smoothness and years of hard service. Competitively priced, yet packed with heavy-duty features. Write for catalog today.

AHLBERG BEARING COMPANY
3025 W. 47th Street
Chicago 32, Ill.

AHLBERG PRECISIONEERED
Anti-Friction Products Since 1908

▲ For more details circle NED-244 C3 on enclosed inquiry slip ▲



it's OK let'em go with OK

hardened ways, gibs, ball races, and Ampco* bronze wear strips

The ultimate success and accurate life of your machine depends largely on the accuracy, and uniform high hardness of its ways, gibs, ball races or wear strips. OK parts are the finest. Made of special tool steel welded to a backing of soft tough steel under 2500 tons pressure, then hardened to a Rockwell C-65-66 and ground to tolerances of ± .00015 (both straight and parallel). Available in all sizes and shapes, to meet your particular requirements.

OK wear strips are also available in welded Ampco bronze. Because of the OK's special bi-metal method of welding, less bronze is required. Ways are ground to close tolerances thus reducing manufacturing and assembly time.

Manufacturers for the Metal Working Industry of Slitter Knives, Shear Blades, Rotary Shear Knives, Hardened Spacers, Hardened Ways, Gibs, Ball Races, Bronze Ways, and Wear Strips.

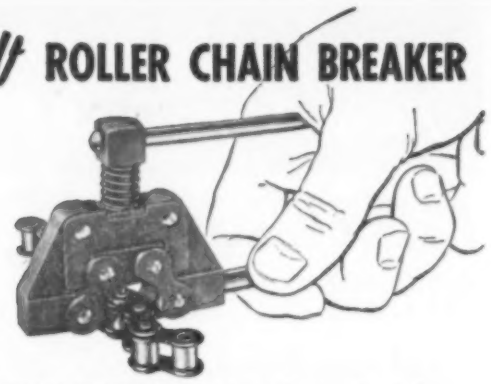
Write Dept. K for Bulletin

*Reg. U. S. Pat. Office by Ampco Metal Inc.

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

▲ For more details circle NED-245 C3 on enclosed inquiry slip ▲

New ROLLER CHAIN BREAKER



BREAK CHAIN IN SECONDS without damage to chain.

BREAKS ANY SIZE CHAIN No. 25 to No. 60.

BOSTON GEAR QUALITY THROUGHOUT Vital parts heat treated for wear-resistance and high strength.

AT YOUR BOSTON Gear DISTRIBUTOR Ask for new Chain Breaker folder. Explains simple operation.

Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

BOSTON Gear
POWER TRANSMISSION PRODUCTS

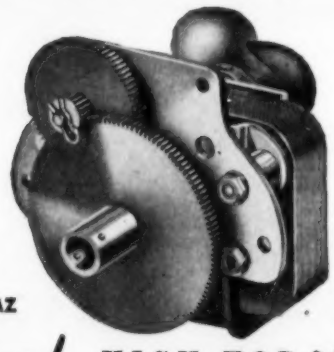
▲ For more details circle **NED-246 C3** on enclosed inquiry slip ▲

Barcol® MOTORS

Time the Game

ON
ALL-AMERICAN SCOREBOARD CORPORATION BASKETBALL SCOREBOARDS

All-American Scoreboard Corporation, Pardeeville, Wisconsin finds the Barber-Colman JYAZ Synchronous Motor the most satisfactory drive for their basketball scoreboard timing mechanism.



TYPE JYAZ

Barcol® HIGH TORQUE SYNCHRONOUS MOTOR

Barcol JYAZ Motors develop many times the power of ordinary timing motors. They combine small size, high torque, accurate timing and light weight. They operate under severe conditions of temperature and humidity. Outstanding characteristics include • Built-in high quality • High dielectric coil spool • Hardened and ground stainless steel drive shaft • Precision cut gears • Porous bronze bearings with large oil reservoirs.

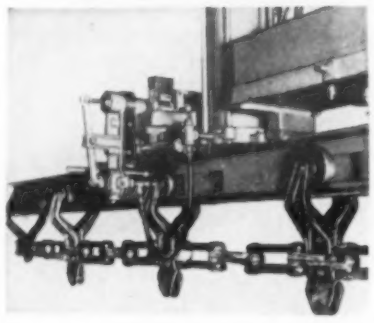
Write us about *your* application for Barcol small motors.

WRITE FOR CATALOG SHEET M5

BARBER-COLMAN COMPANY
1206 ROCK STREET • ROCKFORD, ILLINOIS

▲ For more details circle **NED-247 C3** on enclosed inquiry slip ▲

TROLLEY WHEEL LUBRICATOR
oils or greases on both sides of overhead conveyors continuously



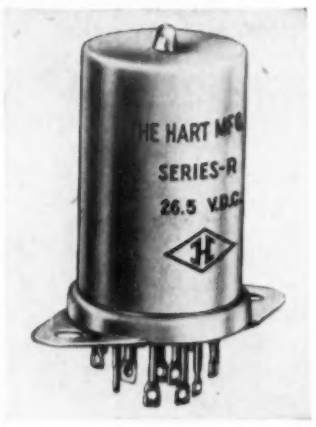
Trolley wheels operating on both sides of overhead conveyor tracks are lubricated without stopping the conveyor line by the Alemite automatic lubricator. At one central point measured amount of oil or grease is applied on both sides at the same time. Quantity of lubricants is adjustable up to 0.005-cu in. Wheels can be yards apart, irregular in spacing or as close as 8 in. on centers.

Lubricator is a "package" unit complete with a section of track and is easily installed in any existing overhead conveyor system. Lubricant reservoir and lubricator assemblies are mounted on the track. Reservoir holds 5 lb of grease (for 32,000 shots of maximum quantity) or 2½ qt of oil.

Electric power is required and air is used for grease operation only. Lubricant pressure is 800 to 1000 lb as applied to chain. Oil mist chain lubrication is an accessory. Made by **Stewart-Warner Corp.,** Alemite Div., Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

▲ For more details circle **NED-248 C3** on enclosed inquiry slip ▲

HERMETICALLY SEALED RELAY
operates in —65° to 200° C range



Only 1.6 cu in. in size and 3.76 oz in weight, series R hermetically sealed aircraft type 4PDT relay will operate under shock of 50 g and in temperature range from −65° to 200° C. Interelectrode capacitance is less than 5 micromicrofarads, contacts to case, and less than 2½ mmf between contacts, even with plug-in relay and socket. Vibration range is from 0 to 500 cycles/second and upward at 15 g without chatter. At 30 g operational shock resistance, sensitivity approaches 100 milliwatts. Relays have tested successfully at 10 amp resistive for 100,000 cycles and 30 amp resistive for 100 cycles. Contact resistance at end of tests was less than 0.030 ohm. Coil resistances up to 50,000 ohms can be supplied, as well as variety of mounting arrangements. Made by **Hart Mfg. Co.,** Dept. N, 110 Bartholomew Ave., Hartford, Conn.

▲ For more details circle **NED-249 C3** on enclosed inquiry slip ▲

new Willson

BRONZE

safety spectacles

combining ***eye protection*** *with the* ***color styling*** *workers want today!*

NEW NON-FLAMMABLE FRAMES are toughest plastic made for spectacles! Won't chip, crack or craze. New wire core spatula temples give extra comfort. Full range of sizes makes these new styles ideal for use with prescription lenses. See your Willson distributor or write for bulletin.

Style WB—with bronze spatula temples or half-plastic, half-cable temples; Style WBS has matching sideshields.

Also available in flesh-colored plastic frames—WK and WKS.

Choice of 2 Lenses in all styles—heat-treated Super-Tough® glass lenses or Willson Plas-Tough® plastic lenses.

WILLSON®
"Established 1870"

WILLSON PRODUCTS, INC., 219 Washington St., Reading, Pa.

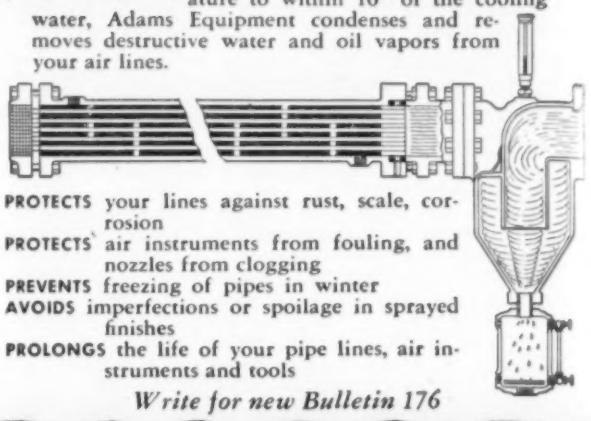
▲ For more details circle **NED-250 C3** on enclosed inquiry slip ▲

You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons
1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with ADAMS Aftercooler and Cyclone Separator

● Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R.P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

▲ For more details circle **NED-251 C3** on enclosed inquiry slip ▲

AMES

No. 2 Dial Comparator

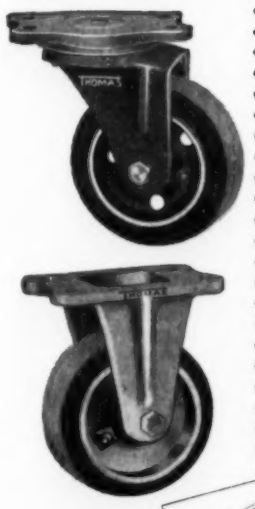
This is smallest in the Ames' line of high quality dial comparators. It is ideal for desk or bench use in the fine inspection of small precision parts. Light in weight, its broad base makes it very stable. The capacity approximates that of the regularly supplied Ames No. 202 Dial Indicator which has a 0-100 dial, graduated in .001", with a .250" range. If your job requirements differ, you can have the No. 2 with any Ames "Hundred Series" Dial Indicator. Send for details.

Send today for your free copy of Catalog No. 58

Representatives in principal cities. **B. G. AMES CO.** *34 Ames Street Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle **NED-252 C3** on enclosed inquiry slip ▲

CASTER PROBLEMS?



See

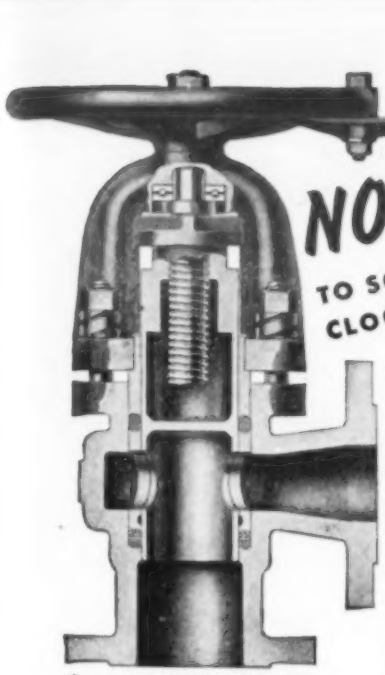
THOMAS TRUCK
of Keokuk

Their complete line of casters has been designed and built to give long years of dependable operation under today's faster rates of travel and longer hauling distances. Whether you need casters with steel, rubber-tired, pneumatic or semi-pneumatic wheels with Hyatt roller bearings, in rigid, swivel, cone stem or trailer casters, see THOMAS. Their years of experience and manufacturing facilities are ready to serve you. *Whatever* your caster problem—see THOMAS, *first!*

Send **for Free Literature**

THOMAS TRUCK AND CASTER COMPANY
326 Mississippi River
KEOKUK, IOWA

▲ For more details circle **NED-253 C3** on enclosed inquiry slip ▲



NO SEAT!

TO SCORE... WEAR... CLOG... AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

Cross section of Type "B" Seatless Angle Valve, Flanged.

YARNALL-WARING COMPANY
131 Mermaid Ave., Phila.18, Pa.

YARWAY BLOW-OFF VALVES

For more details circle NED-254 C3 on enclosed inquiry slip

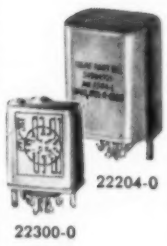
THERE IS AN R-B-M CONTROL To Fit Your Needs

A.C. MAGNETIC STARTERS
with Plasti-Clad Magnet Coil
•
Write for Bulletin 605

Full accessibility in a small package.

Contacts, coil and thermal element replacement with use of screwdriver only. Magnet coil—in molded phenolic case with riveted terminals—is completely embedded in a rock-hard resinous material, thus protecting against oil, dirt, moisture and normal mechanical damage.

HERMETICALLY SEALED RELAYS
•
Write for Bulletin ASR



50% smaller—lighter.

R-B-M 22204-0 meets AN 3304-1 specifications. R-B-M engineers have developed the 22300-0 currently used in government electronic, air-borne and ground equipment—as the electrical and mechanical equivalent of the AN 3304-1, yet 50% smaller in size with ½ the weight.

INDUSTRIAL CONTACTORS
with Plasti-Clad Magnet Coil
•
Write for Bulletin 600

2-8 poles Non-Reversing. 2-5 poles Reversing. 25 Amp—600 AC Max.

Contacts can be replaced without removing wiring. To change coil, remove magnet frame and coil assembly only. 10 and 15 amp. poles can be changed from normally open to normally closed by using screwdriver only.

GENERAL PURPOSE RELAYS
•
Write for Bulletin 570

Low cost. Small size. Dependable performance. Available in many contact arrangements.

Whatever your needs for inexpensive, dependable relays for commercial applications—investigate R-B-M General Purpose Relays.

Other R-B-M products include; motor overload protectors, motor starting relays and low voltage DC electrical devices.

Consult R-B-M on Your Control Problems — Write Dept. K-3

R-B-M DIVISION ESSEX WIRE CORP.
Logansport, Indiana
MANUAL AND MAGNETIC ELECTRIC CONTROLS —FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

For more details circle NED-255 C3 on enclosed inquiry slip

INDUSTRIAL RECORDER uses remote dispatching phones

Routine paper work, reports, problems, requests, suggestions and ideas can be recorded for transcribing later by using the Industrial Televoice System which consists of a series of dispatching phones connected to a central recorder (illustrated). Paper work is reduced and time is saved for foremen, supervisors, inspectors, maintenance men, expediter and other personnel. The information "talked" into the system is recorded on plastic disk of central recording machine which can be located any distance away. Developed by **Thomas A. Edison, Inc.,** Dept. N, West Orange, N. J.

For more details circle NED-256 C3 on enclosed inquiry slip

TRUCK MOUNTED SHOVEL CRANE rated at 6 tons capacity, improved model has larger shafts, bearings

Mounting on any new or used tandem axle truck having wheel-base of 164 in. or more, improved ⅜-yd heavy duty model T-35 shovel-crane is conservatively rated at 6-ton capacity. Major improvements include vertical swing shaft bearing that allows for almost twice the radial load on shaft as previous model.

Increased drum clutch and swing clutch surface results in smoother, faster clutching, and more drum and boom hoist braking surface assures better load handling accuracy. Power boom hoist gives power lowering as well as raising. Drum-brake control is easy for operator, with 21 to 1 ratio from pedal to brake band. Streamlining of cab, plus hinged metal door at cab top give operator 61.8 per cent more visibility, and addition of sliding panel safety glass windows provides better ventilation.

Other features include antifriction bearings, machine-cut gears, internal expanding band clutches with molded linings and snap-in rollers, external contracting brakes, band-type swing brake and jackshaft-mounted tagline which is also usable for power operated shovel dipper trip. Eight fast-change attachments fit the T-35 for handling wide range of excavating, lifting and handling jobs. Made by **Schield Bantam Co.,** 264 Park St., Waverly, Iowa.

For more details circle NED-257 C3 on enclosed inquiry slip

STICHT TACHOMETERS

FOR EVERY NEED... EVERY SPEED

ACCURATE · DEPENDABLE · QUALITY BUILT

CENTRIFUGAL HAND TACHOMETERS

Universal Type U with 5 ranges in one instrument.

CAT. NO. 303, 30-12,000 RPM
CAT. NO. 314, 45-18,000 RPM
CAT. NO. 322, 60-24,000 RPM
CAT. NO. 346, 120-48,000 RPM

Many other models with one, three or five ranges.

BULLETIN NO. 750

CHRONOMETRIC HAND TACHOMETERS

"Jaquet" Speed Indicators with built-in chronometer movement. Timing period 3 or 6 seconds. Guaranteed accuracy 1/2 of 1 per cent.

CAT. NO. 2301, 0-10,000 RPM
CAT. NO. 2302, 0-1,000 RPM
CAT. NO. 2304, 0-100 RPM

Suitable double rated speed.

Nine models. Various accessories.

BULLETIN NO. 735

CENTRIFUGAL STATIONARY TACHOMETERS

For permanent mounting on machines. Model J. Sizes 3 in., 4 in., 5½ in., 8 in. and 10 in. dial diameters. Flexible cable driven. Many standard ranges reading RPM, FPM, YPM, etc.

BULLETINS NOS. 794, 795, 796

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.
Tachometer Headquarters

For more details circle NED-258 C3 on enclosed inquiry slip

Two Way Protection

Slip a Twin Disc HYDRO-SHEAVE® Drive on the end of motor or engine shaft, and you've gained *two-way* protection . . . a "cushion" of oil that *protects:* (1) motors and engines from damaging overloads; (2) driven equipment from shocks and vibrations. Call your Twin Disc Hydraulic Dealer today—find out how other industries in your area are getting two-way protection against overload repairs and lost man-hours with HYDRO-SHEAVE Drives. And write for Bulletin 145-B.

HYDRO-SHEAVE Drive —the Twin Disc Hydraulic Coupling unit designed for easy installation on motors or engines from ¾ to 50 hp.

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois
BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

For more details circle NED-259 C3 on enclosed inquiry slip

INSPECTION REPORT

TAKES NO GO GAGE — 0 PIECES
TAKES GO GAGE — 100 PIECES
OK — 100 PIECES

eliminate your tapping problems..

your inspection department records will show that parts tapped with "Auto-tap" are consistently free from rejects . . . drives the tap and takes the load . . . your taps last *much* longer

with *"Auto-tap"* the new lead screw tapping attachment

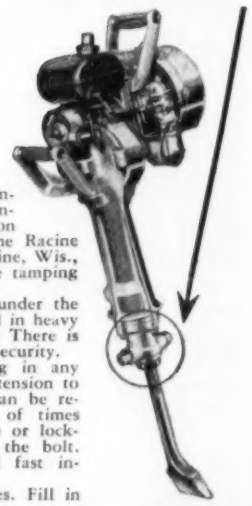
WRITE FOR FULLY DESCRIPTIVE LITERATURE AND PRICES

Automatic Methods INC.
"PRECISION PARTS FOR THE AIRCRAFT INDUSTRY"

42 Walnut St., Bldg. 203, Newark 2, N. J.

For more details circle NED-260 C3 on enclosed inquiry slip

A LOCKNUT THAT WILL HOLD HERE WILL HOLD ANY PLACE!



FIFTEEN HUNDRED blows a minute in limestone ballast is tough Punishment. Security Locknuts are used on the Racine Tie Tamper made by the Racine Hydraulic & Machinery, Inc., of Racine, Wis., to hold the bushing that carries the tamping tool.

A Locknut that will hold here, under the pressure of the vibration encountered in heavy railroad work, will hold any place. There is no other locknut or fastener like Security.

Security Locknuts are self-locking in any position. They do not require bolt tension to keep them tight. A Security Nut can be removed and replaced any number of times without material loosing the torque or locking power and without injury to the bolt. This means easy maintenance and fast installation.

Made in ⅜ in. to 3 in. bolt sizes. Fill in the coupon for more details.

Security

SECURITY LOCKNUT CORP.
North Ave. and 15th Ave.
Melrose Park, Ill.

THE NUT YOU CAN'T SHAKE LOOSE

Please send me without obligation:
☐ A Thread Tolerance Chart.
☐ We have a fastener problem and would like to know more about Security Locknuts.

Company Name .....
Address .....
Town ..... Zone ..... State .....
Signed .....

For more details circle NED-261 C3 on enclosed inquiry slip

Mecco SAFETY
"WEDGE-GRIP"
STEEL TYPE HOLDER

Fast TYPE CHANGE FEATURE

Ideal for use on marking jobs requiring interchangeable type, this unit features a patented Safety Snap for speed and ease in changing type. Made to order in any size, it is made of Mecco Safety Steel to prevent spalling and mushrooming.

Write for literature

M.E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
1055 Chateau Street • Pittsburgh 33, Pa.

For more details circle NED-262 C3 on enclosed inquiry slip

INCREASE your production with efficient–
CHELSEA
INDUSTRIAL
FANS
—A TYPE FOR EVERY APPLICATION!

CHELSEA TYPE IND EXHAUST FAN
For factories, mills, theatres, schools, hotels and churches. Features belt drive with ball bearing motor and fan shaft. Sizes from 24" to 72".

STEP-UP OUTPUT and quality of workmanship, reduce industrial accidents and employee fatigue with proper ventilating and cooling equipment. CHELSEA Fans remove excessive heat, fumes, dirt, dust and grit, also dead stale air. 30 models, in over 200 sizes, are available, and each fan or blower is especially engineered and tested for its recommended applications. All ratings are certified by P.F.M.A. test methods to insure proper performance. Check on your ventilating requirements, now.

NEW CATALOG No. 400 now available!
Complete data and specifications on fans and blowers for every industrial and commercial application—address requests to Dept. K-3.

Certified Ratings

PROPER VENTILATION IS AN INVESTMENT!
Look for this Symbol of Quality . . . →
← Look for this Seal of Certified Ratings

CHELSEA
CHELSEA FAN & BLOWER CO., Inc.
PLAINFIELD, NEW JERSEY

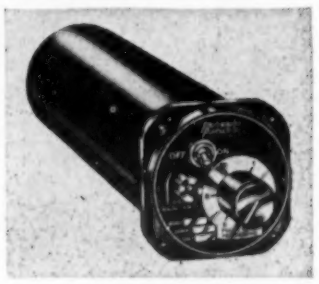
For more details circle NED-263 C3 on enclosed inquiry slip

IMPROVED FLOOR SCRUBBER
designed for fast, easy cleaning

Reduction of operator fatigue is result of improvements incorporated in this Tornado floor scrubbing machine. Brush coupler permits operator to move the machine over the brush, start the motor and automatically pick-up or engage the brush. To remove the brush, operator merely tips the machine up and gives the brush a slight push with his foot. Dual motor switches on handles facilitate control of motor with either the right or left hand. Left hand switch also controls the solution tank valve for steady or intermittent flow. Tank is redesigned for better balance and has solution sight gage. Wheels of machine retract automatically when handle is raised. Made by **Breuer Electric Mfg. Co.,** 5106A N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-264 C3 on enclosed inquiry slip

INTERVAL CONTROLLER
for electrically operated apparatus



Cycle rate of camera recording devices and other small electrically operated apparatus can be controlled by the model N10 Intervalometer. Pulse rates per second are 1, 2, 4, 5, 8 and 10 and pulse length is variable from 25 to 70 milliseconds. Other intervals and durations are available on special order. Controlling motor is chronometically governed, with speed regulation accurate to plus or minus 0.5-per cent. It is shielded and filtered to eliminate radio interference. Instrument is unaffected by operating position or application of 15g loads in any direction. Operating power required is 20 to 30 v dc. Made by **Photographic Products Inc.,** 6912 Romaine St., Hollywood 38, Calif.

For more details circle NED-265 C3 on enclosed inquiry slip

DO YOU KNOW? You can now buy redwood and aluminum combination storm windows in knock-down packaged form for easy assembly in your workshop or plant maintenance department. All necessary hardware, screws, clips, etc. are included in the carton, and only glass and screening need be purchased locally. The price is reported to be less than half that of comparable finished combination storm windows. Developed by Buckeye Screen & Weatherstrip Co., 1378 S. 22nd St., Columbus 6, O.

For more details circle NED-266 C3 on enclosed inquiry slip

WON'T SMUDGE • RESISTS: DIRT GREASE WATER ACIDS

LABELON PLASTIC Write on it TAPE

STICKS WITHOUT MOISTENING

Nothing else like LABELON—the amazing "Write on it" plastic tape! Use it to identify hard-to-mark stock samples, patterns; for bin labeling and tool tagging; for indicating repairs and adjustments; for marking laboratory equipment, supplies, tests; for panel boards and wiring; for labeling office files, folders, etc.

LABELON TAPE sticks without moistening to any smooth, clean surface—yet can be quickly removed. Resists heat up to 160°. Just write on it with pencil or stylus—message won't smudge. Choice of widths and colors. Handy dispenser with cutter bar.

See your nearest dealer, or write for sample and prices.

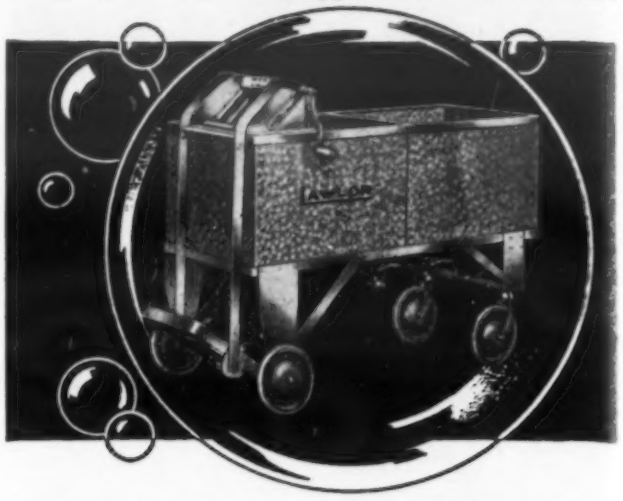
For ROUTING, INVENTORY, MAINTENANCE, etc.

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 9, N. Y.

Write to Dept. NED

For more details circle NED-267 C3 on enclosed inquiry slip

LAWLOR MOPPING TANKS
Lead the Field in Ruggedness and Service



8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • hand or foot pressure wringers • perforated roll wringers • special drain shut-offs • hot dipped, galvanized chassis and frames • rubber tired, cadmium plated steel wheels.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines for every kind and size floor.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 Years
131 N. Aberdeen St., Chicago 7, Ill.

See our Exhibit, N.S.S.A. Convention Booth 159, Hilton Hotel, Chicago, March 22-25

For more details circle NED-268 C3 on enclosed inquiry slip

PROTECTIVE PORTABLE LIGHTING

McGill vaporproof Lamp Guards eliminate the hazards of shock or sparks from broken bulbs thereby reducing the chance of fire. They offer portable lighting with added safety because they are watertight, vaportight and moisture proof. The protective globe and handle is thoroughly sealed. They are not harmed by hard use or splashing liquids. Available in 60 or 100 watt bulb size and with metal or fiber cages.

Send for Catalog No. 49-A today!

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 151 N. CAMPBELL ST. VALPARAISO, INDIANA

For more details circle NED-269 C3 on enclosed inquiry slip

SLIM, TRIM and EFFECTIVE

TORIT

DUST COLLECTOR installed with a double end polishing stand

Torit Dust Collectors are available in both cabinet and cyclone types, in sizes ranging up to 5 h. p.

Here is a Torit 19-FB Dust Collector and Torit wheel hoods effectively capturing lint from two 12" by 5" brushes. Note the absence of all work interference and the minimum of piping.

Torit's efficient design lends itself to compact setups that fit into present or future production layouts. Sturdy construction keeps down maintenance costs and, as above, the same switch starts machine and dust collector.

Torit Dust Collectors can be installed on a *slim* budget. They *trim* operating costs, and are *effective* in ridding your plant of dust hazards. For details write:

see our catalog in MACHINE TOOL CATALOGS or write for copy

TORIT MANUFACTURING CO.
298 Walnut St. St. Paul 2, Minn.

For more details circle NED-270 C3 on enclosed inquiry slip

For more details circle NED-271 C3 on enclosed inquiry slip

HOW TO SELECT THE *RIGHT* MOTOR AND CONTROL FOR YOUR JOB

Name your motor and control need . . . a-c or d-c, from 1 to 700 hp . . . this book has the answers! Gives requirements to consider before selection. Features comprehensive chart, teaming the right motor and control to the right job.

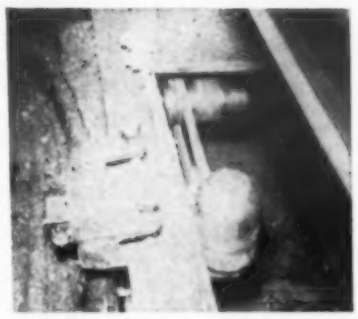
Introduces Westinghouse motor and control features—tells what they mean to you . . . shows modifications and accessories available and explains how they add life and versatility. It's a valuable selection guide with a storehouse of facts. Write for free booklet, Motor and Control Selector Guide, B-5458, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21687

YOU CAN BE SURE... IF IT'S Westinghouse MOTORS and CONTROLS

For more details circle NED-272 C3 on enclosed inquiry slip

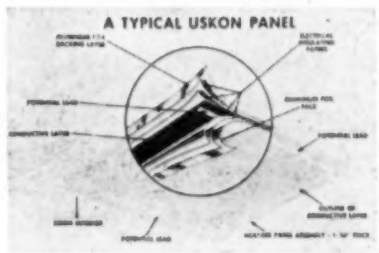
MOTORLESS PUMP
driven by conveyor belt



Developed primarily for belt conveyor-equipped mines, model 17 Harris-Frye mine pump uses no motor or electric lines. It is a Jabsco 7-lb pump mounted with a 20-lb attachment and driven by the conveyor belt. Pump is self-priming, operates at 250 rpm and has an abrasion-resistant rubber impeller. Entire unit includes pump, conveyor belt frame attachment, pulley and belt. Photo shows pump with 1-in. plastic hose for delivering 300 gph at 20-lb head. It draws 1/5-hp from conveyor belt return roller. Offered by **Harris Pump & Supply Co.**, Dept. N, 922 Quarrier St., Charleston, W. Va.

For more details circle NED-273 C3 on enclosed inquiry slip

RADIANT HEATING PANEL
cements to ceiling like wallpaper



Only 1/16-in. thick, Uskon electrical radiant heating panel can be cemented with special adhesives to plaster, sheetrock or similar type ceilings. Heating unit is sheet of conductive rubber sandwiched between layers of thin plastic and aluminum foil. Panels weigh 6 oz per sq ft, are rated 22 w per sq ft and can be furnished for either 115 or 230-v operation. Surface temperature of about 100 degrees heats floor and other objects in room without heating air. Panels are available in 4 x 6 ft, 4 x 4 ft and 3 x 4 ft sizes and will attach to ceilings without cutting, rebuilding or plastering. They can be painted with conventional flat interior decoration. Made by **United States Rubber Co.**, Mechanical Goods Div., 1207 Rockefeller Center, New York 20, N. Y.

For more details circle NED-274 C3 on enclosed inquiry slip

DO YOU KNOW? Teleprompter, that amazing device which enables your favorite television announcer or actor to zip through difficult lines with finished aplomb, is now being employed in public relations work. A public speaker is guided in his delivery by this device which rolls the script before his eyes a few lines at a time and in letters about 1-in. high. Speed is regulated to speaker's rate of delivery. Unit can be built right into the rostrum or used on a stand. Offered by Radio Corp. of America, RCA Victor Div., Front & Cooper Sts., Camden, N. J.

For more details circle NED-275 C3 on enclosed inquiry slip

BECKER CO_2-POWERED SPRAY GUN

NO COMPRESSOR • NO HOSES
NO ELECTRICAL OUTLETS

USE IT ANYWHERE!

Here's a completely portable sprayer especially designed for the hundreds of industrial uses where costly, cumbersome compressor-type spraying is unnecessary. Sprays paints, oils, varnishes, water-proofing, fire-proofing, etc. Powerful CO_2 cartridge sprays up to one 21 oz. containerful at high pressure. Light in weight for easier spraying. Has brass and stainless inserts, heavy-gauge steel container, comfortable knurled handle grip, and cast aluminum head.

SEE YOUR DISTRIBUTOR or order direct postpaid. Extra CO_2 cartridges at your dealer's or 10 for $1 postpaid.

SULLIVAN-BECKER CO., Dept. 173-C, Kenosha, Wis.

For more details circle NED-276 C3 on enclosed inquiry slip

a positive approach...

to lower handling costs saves this manufacturer $6.00 every time his five-ton Robbins & Myers "F" hoist handles a bundle of steel. Bigger unit loads, plus "Freeway"* overhead handling methods offer similar savings to all types of industry. For data on this specific hoist write for Bulletin No. 801-C.

*Materials handling on a separate overhead level.

TAKE IT UP WITH ROBBINS & MYERS INC

MOTORS HOISTS CRANES FANS MOYNO PUMPS

HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

For more details circle NED-277 C3 on enclosed inquiry slip

EX-CELL-O HYDRAULIC POWER UNITS For Special Purpose Machines

Ex-Cell-O Quill-Type Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling, reaming counterboring operations. Three standard units are available—styles 28-A, 21 and 20, shown below. For full information send for Bulletin 45828.

53-9

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

For more details circle NED-278 C3 on enclosed inquiry slip

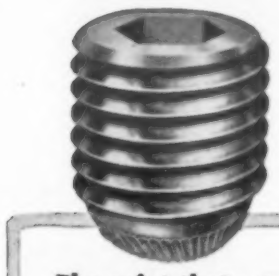
NOW! Chatterless countersinking with the new FORD "QUAD"

Produce controlled finishes with none of secondary burrs resulting from ordinary countersinks. New type flutes of this job-proven high speed steel countersink are equally efficient on chamfering or burring, valve-seat-finishing, center reaming. You'll be amazed by smooth, even finish even on square holes.

Pioneers in Job-engineered Rotary Tools

M. A. FORD MFG. CO., INC.
741 West River St., Davenport, Iowa
Please send details and prices on the Ford "Quad" countersink.
NAME: _____
COMPANY: _____
ADDRESS: _____

For more details circle NED-279 C3 on enclosed inquiry slip



UNBRAKO®
self-locking
CUP POINT

The point that won't work loose

Unique, counterclockwise knurls on the cup point make these UNBRAKO Socket Set Screws self lockers, prevent them from loosening. UNBRAKO Self-Locking Set Screws stay tight even in poorly tapped holes, reduce maintenance costs and cut production losses. Standard sizes—#4 to 1" in a full range of lengths—are available for prompt delivery from your UNBRAKO industrial distributor. Write for UNBRAKO Standards. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

UNBRAKO SOCKET SCREW DIVISION SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-280 C3 on enclosed inquiry slip

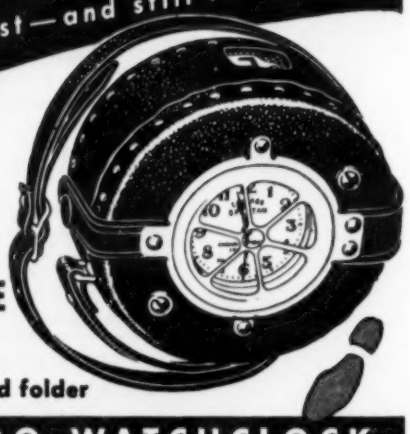
In the silence of the night

the watchman makes *his* rounds while the hands on his CHICAGO Watchclock make *their* rounds.

In the morning, there is a permanent dial-record of exactly where the watchman was during each hour...in the silence of the night.

The tamperproof CHICAGO Watchclock system is approved by both THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUAL'S LABORATORIES. It gives extra protection against fire, theft and sabotage.

CHICAGO WATCHCLOCK
The first—and still the first



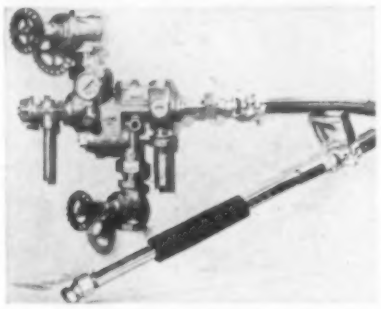
Quickly pays for itself... REDUCES INSURANCE RATES

Send for illustrated folder

CHICAGO WATCHCLOCK
DIV. GREAT LAKES INDUSTRIES, INC.
1522 S. WABASH AVE., CHICAGO 5, ILL.
OFFICES IN PRINCIPAL CITIES

For more details circle NED-281 C3 on enclosed inquiry slip

JET LIQUID CLEANER for low pressure steam facilities

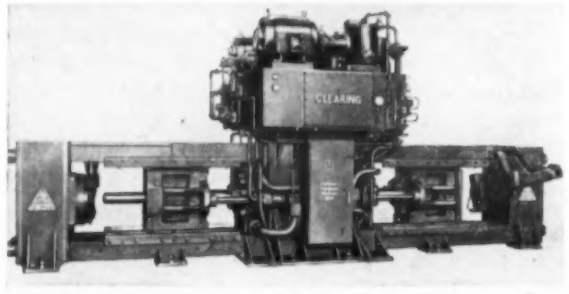


Plants with only 5 to 25 psi steam facilities can perform heavy duty cleaning jobs with this Booster Jet cleaner. System converts the low inlet steam pressure to discharge pressures of from 100 to 200 psi. This pressure propels with cannon-like force a solid stream of water with up to 25 per cent detergent and at 160 to 210° F temperatures. Resultant impact removes all dirt, grease and stubborn matter from walls, floors and equipment, including inaccessible machinery parts. Length of jet can be adjusted up to 30 ft from discharge nozzle. Fuel or electricity are not required, and no toxic fumes are produced. Made by **Sellers Injector Corp.**, 1602-Z Hamilton St., Philadelphia 30, Pa.

For more details circle NED-282 C3 on enclosed inquiry slip

DOUBLE END HYDRAULIC PRESS utilizes both ends of stroke to cup and draw 24-in. shell cases

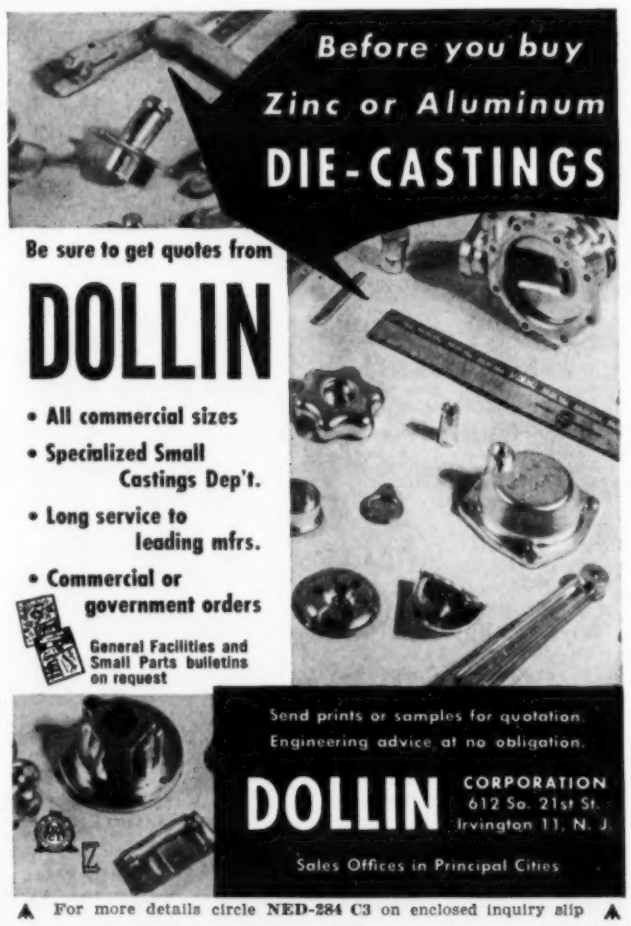
Cupping and drawing of cartridge case is substantially speeded up with this double end horizontal hydraulic press which forms at both ends of the stroke.



In producing 24-in. 90-mm shell, press illustrated first cups an 8⅞-in. diameter disk of 1030 steel by forcing it through carbide insert draw ring, reducing wall thickness by 44 per cent. On opposite end of press, part is drawn with wall thickness being reduced another 45 per cent. Three more drawing operations and a tapering operation on double end presses, plus subsequent base forming and case marking on other presses are then performed.

Tonnage capacity of press is variable on either side from 0 to 330 tons. Distance from face of beds to slides is 54 in. maximum, 18 in. minimum, and maximum stroke of slides is 36 in. Closing, pressing and return speeds are, respectively, 2200, 200 and 2200 imp. Press includes automatic chute feeds that are pneumatically and electrically interlocked with the press stroke. Made by **Clearing Machine Corp.**, 6493 W. 65th St., Chicago 38, Ill.

For more details circle NED-283 C3 on enclosed inquiry slip



For more details circle NED-284 C3 on enclosed inquiry slip

FREE SCALE *Selector* FOR ENGINEERS

Now, for the first time, 12 standard scale graduations are illustrated ¾ size in a single spread for easy reference. You can select that scale, or series of scales, to serve your particular requirements — and be certain of getting exactly the type of scale desired.

Every DURALINE Scale is the last word in precision. It is ground from solid aluminum, engine divided at 70° F, and anodized. It is light in weight — easy to read, will not smudge paper and cannot file the pencil. Eighteen design and process improvements have been introduced. See why they make DURALINE the finest scale on the market today.

Ask your dealer for a copy of the Duraline Scale Selector — or write us direct. No obligation — except to help you make cleaner drawings — faster.

THE UNIVERSAL DRAFTING MACHINE CORP.
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UNIVERSAL
DRAFTING MACHINE. DURALINE SCALES

For more details circle NED-285 C3 on enclosed inquiry slip

Aerovent FAN BELTED DUCT FAN

KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc. where fan motors must be protected.

Aerovent Belted Duct Fans with "Macheta" design handle maximum air with minimum use of power. Sizes 12" to 84"; 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed. For many applications.

Other Models: Direct Connected Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

Certified Ratings PFMA

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AEROVENT FAN CO., INC.
ASH AND BROWN STREET, PIQUA, OHIO

Sales Engineers in Principal Cities

For more details circle NED-286 C3 on enclosed inquiry slip

FASTER at lower cost!

NEW "Speedmaster"
MODEL "S" VERSA-LINER AMMONIA-TYPE WHITEPRINTER

Prints up to 14 ft. per min.
Develops at 8 ft. per min.

• *Save from 50% to 80% of blueprinting costs!* Prints and develops black line and colored line whiteprints in volume at low cost! Handles cut sheets or roll stock up to 42" wide in any length. Equipped with 2000 watt high pressure mercury vapor lamp for greater printing speed. Newly devised blower system for coolest contact—protects originals. Feed, delivery and all controls in front, within easy reach. Easy to install and operate. Trouble-free. Simple to clean. Minimum maintenance. 220 V single-phase 60 cycle AC. Priced at $1565.00. *Get full facts now.*

Also other Versa-Liner and Spee-Dee Whiteprinting Outfits for Moist Diazo or Ammonia Dry process from $55.00.

PECK & HARVEY 5638 N. WESTERN AVE. CHICAGO 45, ILLINOIS
Founded in 1937—Over 10,000 Machines in Use
MFRS. OF WHITEPRINT, BLUEPRINT AND PHOTOCOPY EQUIPMENT

For more details circle NED-287 C3 on enclosed inquiry slip

New!.. Simplified!.. Smaller!

ELECTRONIC NON-SYNCHRONOUS WELDER CONTROL

• for WALL or MACHINE MOUNTING

Write for BULLETIN 8992

Address Square D Company
4041 North Richards Street
Milwaukee 12, Wisconsin

SQUARE D COMPANY

For more details circle NED-288 C3 on enclosed inquiry slip

FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME • MONEY • LABOR

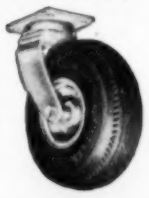
- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.



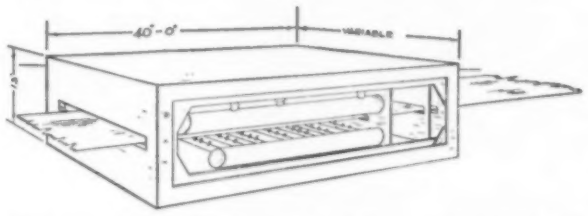
SEND FOR CATALOG . . . DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, O.

For more details circle NED-289 C3 on enclosed inquiry slip

CELLOPHANE CONDITIONER
injects predetermined amounts of moisture into various materials

Installation of a high speed Conditioner into printing or other processing lines handling cellophane, fabrics, wraps or other materials in roll form eliminates



brittleness caused by loss of moisture, increases initial tear and impact strength and replaces weight lost in processing. The reconditioning unit, which measures 40 x 13 in. by the web width, can be attached to any type of printing press in horizontal, vertical or diagonal position.

Besides replacing moisture lost during printing or other operations, the conditioner improves the general appearance of the film by removing wrinkles or distortions caused by processing, reduces loss in width resulting from drying out and stretching and assures better printing quality. Developed by American Viscose Corp. and available from **Wales Engineering Co.**, 223 S. Mint St., Charlotte, N. C.

For more details circle NED-290 C3 on enclosed inquiry slip

TOOL WEAR METER
warning of motor overload indicates tool wear and prevents breakage

Working on the ammeter principle to reflect motor capacity and percentage overloads, the Loadmeter controls wear and limits breakage of carbide tools on milling machines and lathes. Instrument has an auxiliary red pointer which can be set at point at which a tool is dull and should be changed, this point being determined by experience with a dull tool which requires more power to cut.

The Loadmeter can be set for any motor ranging from 1 to 50 hp, and can be sent back to the manufacturer for change to motor of a different rating. Hand on dial moves progressively through four color bands to reach the "above 150 per cent" of capacity rating. It can also be used to establish a feed rate within milling machine power limitations. Available from **Detroit Milling Cutter Co.** 28625-6 Grand River Ave., Farmington, Mich.

For more details circle NED-291 C3 on enclosed inquiry slip

Plastic Seal

BETTER PACKAGING *at* LOWER COST!

Protects parts
FROM RUST AND DAMAGE
while handling or shipping!

Plastic Seal forms a skin tight coating that is moisture-proof and air-tight. Strongly resists shock and abrasion. Ideal for bulk shipments — requires less wrapping — reduces cost. Although Plastic Seal is tough it can be easily peeled. Transparency allows instant inspection and identification. Also available in colors for coding.

Write today for price information and free engineering service on production dipping problems.

GLOBE *Imperial Corporation*
2023 Kishwaukee St., Rockford, Illinois

For more details circle NED-292 C3 on enclosed inquiry slip

WHEREVER RUBBER, PLASTIC OR FABRIC HOSES ARE USED

SAVE TIME and MONEY WITH RELIANCE "HOZ-FAS-NERS"

SEND FOR FREE ENGINEERING BULLETIN NO. 1 TODAY

MAKE HOSE CONNECTION IN 3 EASY STEPS

RELIANCE DIVISION
EATON MANUFACTURING COMPANY
OFFICES AND PLANTS • MASSILLON, OHIO
SALES OFFICES:
NEW YORK • CLEVELAND • DETROIT • CHICAGO
ST. LOUIS • SAN FRANCISCO • MONTREAL

For more details circle NED-293 C3 on enclosed inquiry slip

Here's why it pays to use LINK-BELT "RC" Flexible Couplings

Equalized load / Proper balance at high speeds / Effective compensation for end float and misalignment

Yes, two big engineering features—single chain simplicity and divided rollers—combine to assure top performance, economical power transmission. And that's why you get the three big operating advantages listed above with Link-Belt RC Flexible Couplings. Find out how you can use these efficient couplings to provide positive flexible shaft connection . . . from fractional to 1000 hp. Ask your nearest Link-Belt office or distributor, or write for Folder 2363.

LINK-BELT
"RC" FLEXIBLE COUPLINGS 13,132

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities.

For more details circle NED-294 C3 on enclosed inquiry slip

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
- Select the Tempilstik° for your working temperature.
- Mark your workpiece with it.
- The Tempilstik° will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
11 West 25th St., New York 10, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16½" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

For more details circle NED-295 C3 on enclosed inquiry slip

A. E. C. GENERATOR insulated by BIGGEST MYKROY MOLDINGS ever made

Now it can be told! The Atomic Energy Commission chose MYKROY *above all other materials* to insulate its generator. The 4-ft. diameter of the rings was only one of many reasons.

CHECK THESE FEATURES

- can be machined or molded to closest tolerances
- lightweight—with the mechanical strength of cast-iron
- high dielectric and flashover properties
- won't warp; keeps its shape
- low-loss factor at sub-zero or 1000° F.

Let MYKROY, the perfect glass bonded mica, solve your insulating problems. Sheets and rods . . . machined or molded to specifications. May we quote on your requirements? Write today for MYKROY Brochure #203.

Made exclusively by

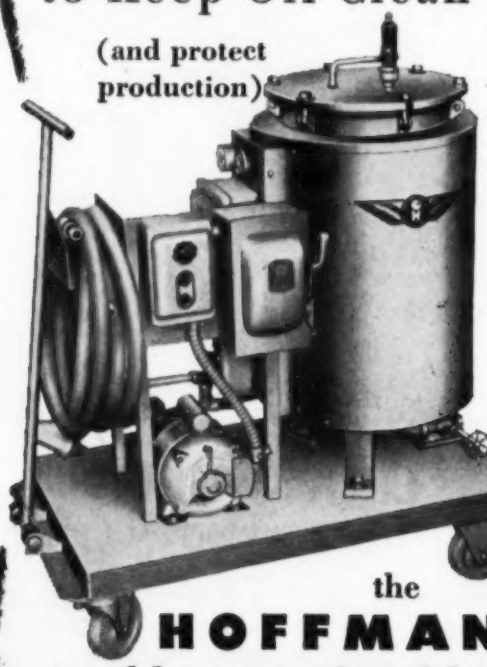
ELECTRONIC MECHANICS INC.
101 CLIFTON BOULEVARD, CLIFTON, NEW JERSEY
MYKROY, INC., WHEELING, ILL.

See us at Booth # 4-610, Radio Engineering Show

For more details circle NED-296 C3 on enclosed inquiry slip

GOES ANYWHERE to Keep Oil Clean

(and protect production)



the HOFFMAN portable cartridge filter

Fills the need for periodic, scheduled filtration of oils where quantity does not warrant separate, continuous filtration. Easily moved from one machine to another. Flexible hose with quick connecting couplings attaches to the oil supply of the machine. Operates on a recirculation basis for such time as is required to fully recondition the oil.

For use on hydraulic oils (hydraulic presses, hydraulic machine tools, injection moulding machines, die casting machines) and quench oils. Two sizes: 30 and 60 g.p.h. capacities for repackable or throwaway cartridges. Fuller's earth or cellulose.

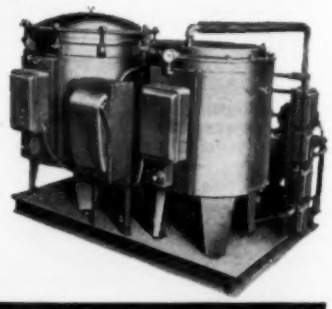
Write for Bulletin A-916 today.

For Complete Purification of Used Oils —

HOFFMAN OIL CONDITIONER

25 to 600 g.p.h. capacity
Removes solubles and insolubles

Write for free Bulletin A-667



TOPS IN VALUE SINCE 1905 Hoffman
INDUSTRIAL FILTRATION EQUIPMENT & SERVICE
U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.
In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

For more details circle NED-297 C3 on enclosed inquiry slip

ALUMINUM LADDER features full width flat steps

Nonslip, full width flat steps of this Sure-Step aluminum ladder assure safe, comfortable standing. At the base, positive grip safety shoes that adapt to most any surface or angle hold the ladder securely. Rubber bumpers at top prevent movement against wall. Ladders weigh half as much as wooden types, yet feature tensile strength of 45,000 psi. Available on request is dielectric barrier which protects ladder against electrical contact. Standard sizes in straight or extended section are available with 2-ft increment lengths. Width is 18 in. Made by **Hilton Mfg. Co.**, 1230M-18 W. Lisbon Ave., Milwaukee 16, Wis.

For more details circle NED-298 C3 on enclosed inquiry slip

FUEL TANK GAGE is weatherproof for outdoor use

Tenite plastic head installed on model 3175 gage for fuel oil tanks makes the gage weatherproof for outdoor use. Interior of the head is sprayed with red lacquer, except for two windows, through which a dual scale can be read from either side. Gage action is magnetic, and there are no holes for connections between gage head and parts inside the tank through which fumes might escape. Made by **Rochester Mfg. Co.**, 114 Rockwood St., Rochester 10, N. Y.

For more details circle NED-299 C3 on enclosed inquiry slip

DO YOU KNOW? Kralastic, a corrosion resistant rubber-based plastic, is being tested as an alternate for bronze in water meter register boxes and covers by Worthington-Gammon Meter Div. of Worthington Corp. This experiment, and application to pipe for water systems handling of corrosive chemicals and plumbing specialties was prompted by the recent copper shortage. Material is unaffected by soil acids or alkalies, has good dimensional stability and can be immersed for long periods, says United States Rubber Co., Naugatuck Chemical Div., Naugatuck, Conn.

For more details circle NED-300 C3 on enclosed inquiry slip

Porter-Cable

ABRASIVE BELT GRINDERS

Slash Costs, Speed Output, Improve Quality

Machining flats
Grinding contours
Centerless grinding
Generating radii
Chamfering, Beveling
Burring, Polishing

EARLY DELIVERY

Abrasive belt machining is a method of removing stock, surfacing and grinding – 5 to 25 times faster than previous methods on most operations.

Uniform surfaces having an overall flatness within .0005" are possible. Polishing-out time is reduced 30% to 50%.

Work-holding fixtures are often unnecessary. When required, they are relatively simple and inexpensive. 55% to 75% set-up and lock-up time is saved . . . often eliminated.

● *Free!* "Case Histories" – a 32-page booklet showing how abrasive belt grinding ups output and slices cost. Write for your copy.

Model 506 Wet-Dry Belt Grinder
Grinds and polishes medium-sized work. 6" belt on a 12½" platen

PORTER-CABLE Machine Co.
1403 N. Salina St., Syracuse 8, N. Y.
Manufacturers of Speedmatic and Guild Electric Tools
In Canada write: Strongridge, Ltd., London, Ont.

For more details circle NED-301 C3 on enclosed inquiry slip

For Dependable Flow Control!

. . . use

DAVIS FLOAT VALVES

THE DAVIS NO. 60 FLOAT VALVE

ENGINEERS interested in working out efficient, trouble-free fluid level and flow control hookups will find a wide choice of units offered in the Davis line of float valves, float boxes, and fluid control valves.

For Float Valve dependability the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single-Seat Pilot Stem Valve! Tight-closing and non-sticking. Standard sizes will open against any pressure up to 125 lbs.
2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.
3. Sizes 3" and smaller are all-brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns. Send for Bulletin 101-B.

DAVIS REGULATOR CO., 2531 S. Washtenaw Ave., Chicago, Illinois

DAVIS VALVES REGULATOR COMPANY DAVIS

For more details circle NED-302 C3 on enclosed inquiry slip

SAVE DESIGN COSTS
PROTECT DELICATE INSTRUMENTS
INCREASE PRODUCTION

figure on AC Line Regulation by SORENSEN

Model 500S

Whether you require line regulation for incorporation into new design, for test installation, or for direct application — specify Sorensen electronic regulators. Be assured of economy, accuracy, trouble-free operation.

STANDARD AC SPECIFICATIONS

VA capacity	150 250 2000 5000 15000 500 1000 3000 10000
Regulation accuracy	± 0.1% against line or load
Input voltage	95-130 VAC; also available for 190-260 VAC single phase 50-60 cycles
Output voltage	Adjustable between 110-120; 220-240 in 230 VAC models
Load range	0 to full load

SPECIFY SORENSEN

SORENSEN & CO., INC.
375 Fairfield Avenue
Stamford, Conn.

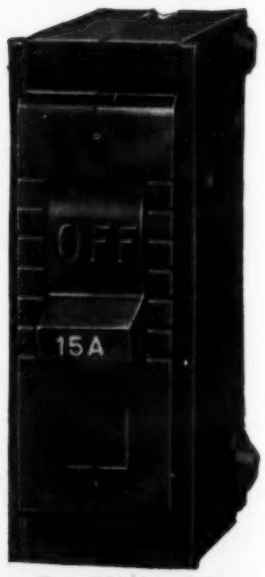
For more details circle NED-303 C3 on enclosed inquiry slip

A Complete Line of Low Voltage CIRCUIT BREAKERS

Available in ratings from 10 to 600 amperes and voltages up to 600 volt AC, 250 volt DC, either open type or with surface or flush-mounted enclosures, of semi-dust-tight, water- and dust-tight design. Accessories available for conversion to non-automatic, remote tripping, bell alarm and other special requirements.

Superior design and construction features enabled Trumbull Electric to develop U. S. Navy-approved breakers for shipboard service. Take advantage of their superior protection, convenience, permanence in your load center, panelboard, switchboard, industrial, commercial or residential applications.

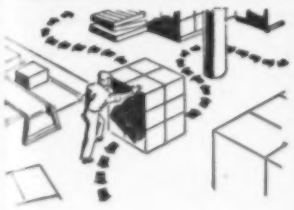
Available through leading Distributors everywhere. Write direct for literature and technical information.



Type TQL Actual Size

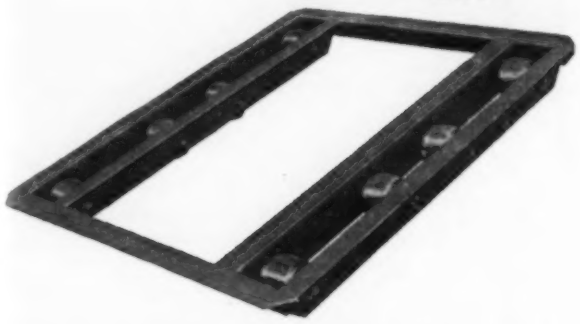
TRUMBULL ELECTRIC
DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

For more details circle NED-304 C3 on enclosed inquiry slip



ACE
SWIVEL KING
PALLET ROLLER

ANY OLD DIRECTION



Effortless movement of palletized loads in a full 360° direction. Years in the field. Ask for Eng. Bulletin 104K. Patents pending.

FRANK L. ROBINSON COMPANY
INDUSTRIAL ENGINEERS • MANUFACTURERS • DISTRIBUTORS
LATHAM SQUARE BLDG. OAKLAND 12, CALIFORNIA

For more details circle NED-305 C3 on enclosed inquiry slip

COUNTING
the pulse of
INDUSTRY

Productimeters register accurate count of every unit processed . . . eliminate profit-eating losses . . . insure economical plant operation and maximum use of man-hours. There's a size and style to suit every need.

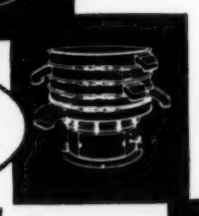
Send for Catalog No. 101

DURANT
MANUFACTURING CO.
1922 N. Buffum Street
Milwaukee 1, Wis.
122 Orange Street
Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS
SINCE 1879 *Count Everything*

For more details circle NED-306 C3 on enclosed inquiry slip

MODEL A-1D
48" Single Screen
SWECO
Separator



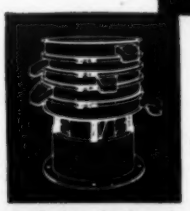
MODEL F-4D
48" Four Screen
SWECO
Separator

SWECO
SEPARATORS

... are Engineered
for Every Screening Need

- Efficient Single or Multiple Deck Screening
- Proved Greater Production Capacities
- From Coarse to as fine as 325 Mesh
- Wet or Dry Screening
- Low Cost Operation
- Unit Completely Self Contained with only Three Moving Parts
- Readily Adjustable Horizontal and Vertical Motion
- Clamp Ring Insures Rapid Screen Cloth Changes
- No Special Foundation, Supports or Base Required for instant Production
- Production Separation with Laboratory Accuracy

MODEL H-1D3
18" Single Screen
SWECO
Separator



MODEL H-4D
18" Four Screen
SWECO
Separator

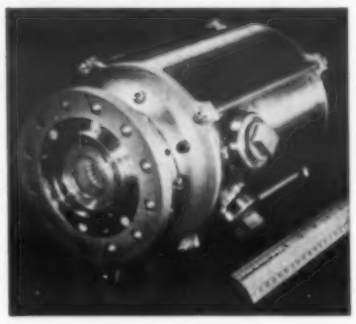
Both Standard and Custom-Engineered Models Available

Write now for new 8-page catalog

SWECO SEPARATOR DIVISION
SOUTHWESTERN ENGINEERING CO.
4800 Santa Fe Ave., Los Angeles 58, Calif.

For more details circle NED-307 C3 on enclosed inquiry slip

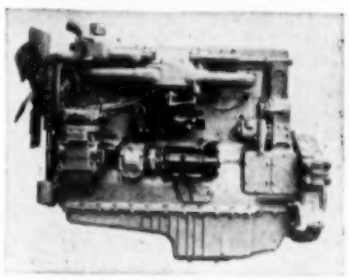
COMPACT DYNAMOMETER is heat rise, flow type water brake



Compact, portable water brake type dynamometer called the Hydra-Brake, for high speed rotary power absorption is of the heat rise, flow type. Illustrated unit weighs 35 lb and is rated at 600 hp at 8000 rpm. Other units absorb power loads as high as 1000 hp. Models having various speed vs load characteristics are available. Standard units range in weight from 35 to 55 lb, with overall dimensions within 14 x 10 in. Standard styles require no cradle or torque arm, being mounted directly on frame of machine under test. Made by **Industrial Engineering Co.**, Island & Suffolk Aves., Philadelphia 42, Pa.

For more details circle NED-308 C3 on enclosed inquiry slip

GASOLINE/BUTANE ENGINE for truck and industrial uses develops up to 320 hp at 2200 rpm



Model 1091 engine for trucks and various industrial uses can be supplied to operate on either gasoline or butane, conversion requiring but a few modifications. Cylinders have a bore of 5¾ in. and a stroke of 7 in., with total displacement being 1091 cu in. It has seven main bearings, is water cooled and has a crankshaft with twelve counterweights. Gasoline engine is rated 285 brake hp at 2200 rpm for truck service, maximum torque is 945 lb-ft at 1400 rpm and nominal compression ratio is 6.4 to 1.

Butane version develops 320 rated brake hp at 2200 rpm for truck service. Maximum torque is 1070 lb-ft at 1200 rpm and compression ratio is 8.8 to 1. Air compressor is located in the cooling fan blast and is driven by dual V-belts. Made by **ACF-Brill Motors Co.**, Hall-Scott Motor Div., 62nd St. & Woodland Ave., Philadelphia, Pa.

For more details circle NED-309 C3 on enclosed inquiry slip

DO YOU KNOW? Electrapane, the glass perfected to carry electric current by means of a transparent metal coating, may soon be available for other than military uses. Heretofore made on a semipilot type of production, this material will be produced in an expanded manufacturing facility. Electrapane, which is being used for frost-and fog-free windows of military aircraft, was developed by Libbey-Owens-Ford Glass Co., Dept. NED-52, Nicholas Bldg., Toledo 3, O.

For more details circle NED-310 C3 on enclosed inquiry slip

TYPE J7

RUGGED, COMPACT,
INEXPENSIVE
PRESSURE CONTROLS

TYPE J40

The Type J40 pressure control is a rugged, precision-built and inexpensive unit for use where light, compact and reliable controls, without head enclosures, may be used. It is used widely on industrial equipment, on aircraft and other engine applications. Complete specifications are covered in Bulletin #5-9. Write for one today.

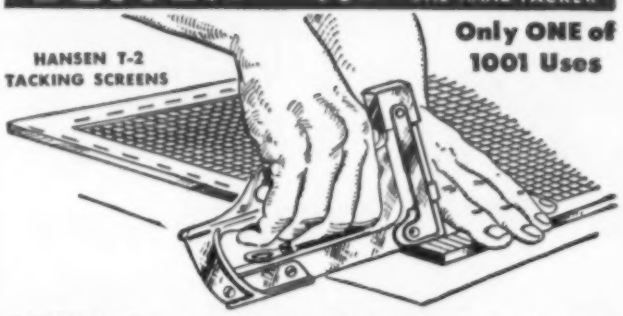
The Type J7 is the most compact enclosed industrial pressure control offered by United Electric. It may be used for controlling gas, liquid or air pressure in applications where space and weight availability is a premium and where precise performance under rugged vibration conditions is a requisite. Bulletin #5-7 gives full details. Write for it today.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

For more details circle NED-311 C3 on enclosed inquiry slip

YOU CAN DO IT BETTER with HANSEN
ONE-HAND TACKER



Only ONE of 1001 Uses

FASTER! Screen Tacking is illustrated merely to show the *versatility* of the Hansen Tacker. It is adaptable to a wide variety of uses . . . saves *time, steps, materials!*

BETTER! With Hansen you place the Tacker accurately in driving position . . . exactly where you want it. Grip the handle. The Tacker drives the staple with precision and accuracy. Powerful action drives each staple securely.

AT LESS COST! Portable . . . self-contained . . . easy to operate . . . balanced design . . . removable Take-up Jaw . . . are Hansen features that cut costs.

36 MODELS
80 STAPLE SIZES

(Model T-3-4 Hansen Tacker)

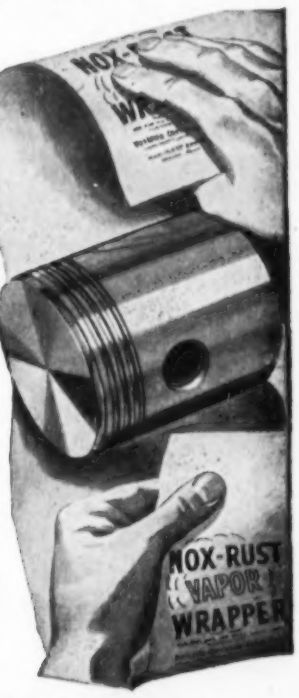
Request Booklet . . . today

A.L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

For more details circle NED-312 C3 on enclosed inquiry slip

One company saved 75% on the cost of packaging pistons!

Wrap Out Rust



with NOX-RUST Vapor-Wrapper, the new chemically active paper that blocks rust . . . ends costly greasing and degreasing!

Rust-proofing with amazing new Vapor-Wrapper is *as simple as wrapping a package!* Just wrap metal parts in Vapor-Wrapper. A new NOX-RUST chemical *within* the paper makes moisture laden air non-corrosive . . . *without the need for an air-tight package* . . . without deposits forming on the metal.

Vapor-Wrapper reduces packaging costs, ends dipping with liquid rust preventives, eliminates cleaning and degreasing. The chemical in this paper is an exclusive development of NOX-RUST laboratories—*so new, it is covered by U. S. Patents.* It is also available in crystal form for blowing into otherwise inaccessible areas.

Pistons now rust-proofed for 5¢ instead of 20¢!

That's the saving made by one leading company* since changing to Vapor-Wrapper. This company now delivers its products ready for use. **Name on request.*

Rust Prevention Specialists Since 1935

NOX-RUST makes rust preventives for a wide variety of uses. Leading companies rely on NOX-RUST in their continuous fight against rust.

Vapor-Wrapper conforms to Military Specification MIL-P-3420, Packaging Materials, Volatile Corrosion Inhibitor Treated.

NOX-RUST
Chemical Corporation
2445 S. Halsted St., Chicago, Ill.
Offices in Principal Cities

NOX-RUST VAPOR WRAPPER

NOX-RUST Chemical Corporation
2445 S. Halsted, Chicago 8, Illinois
Please send me your booklet on Vapor-Wrapper, the rust preventive paper that *wraps out rust.*
*Name*_____ *Title*_____
*Firm Name*_____
*Address*_____
*City*_____ *Zone*____ *State*____

MAIL NOW

For more details circle NED-313 C3 on enclosed inquiry slip

FIRST STEP TO LOWER MAINTENANCE COSTS

The Right Fuller Floor Brush for Your Floors

BIGGEST SELECTION — Over 170 *different* floor brushes. Widths from 12" to 36" . . . in a variety of materials . . . from soft hair to stiff wire. Wood back or Fullergript construction . . . that will save you money . . . because the Fuller line has the right brush for every job.

SERVICE — Technical assistance by a cleaning specialist — the Fuller Industrial Representative . . . plus fast deliveries from regional warehouses.

ALSO SPECIAL FLOOR BRUSHES — Built to your specifications.

To make sure you have the right floor brush for quick work on *every* job, send for new, illustrated catalog. Write to Industrial Division, The Fuller Brush Company, today.

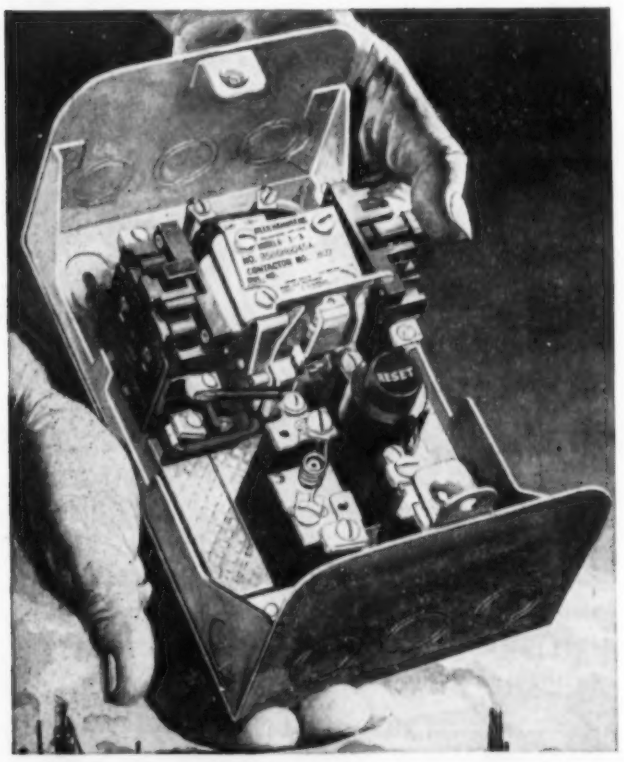
INDUSTRIAL Fuller BRUSH CO. DIVISION

3530 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

For more details circle NED-314 C3 on enclosed inquiry slip

Now CUTLER-HAMMER *proudly presents the spectacular new ★★★ motor control*



INSTALLS EASIER

U-shaped cover for wide-open accessibility. Plenty of light to see. Plenty of room for wiring. Unit plate construction. Scores of new features.

WORKS BETTER New pressure-quench dust-safe vertical contacts. New 4-position overload heater coils. New exclusive 3-coil overload in standard design.

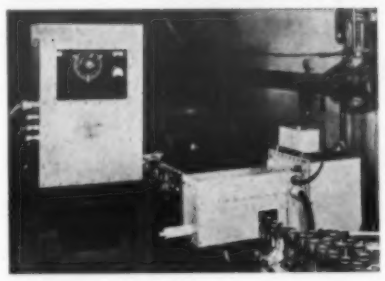
LASTS LONGER More for the money any way you check it, mechanically or electrically. Try it. Test it. Compare it. Prove it. CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisc.

CUTLER-HAMMER ★★★ MOTOR CONTROL C-H

For more details circle NED-315 C3 on enclosed inquiry slip

LEVEL CHECKER

x-ray checks for seal and measure, is accurate to 30 drops for liquids



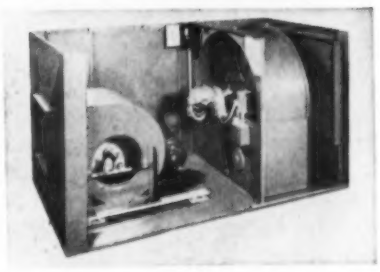
Many products packed in cans or cartons, including milk, waxes, oil, chemicals, grains, cereals, soaps and powders, can be inspected by an adaptation of the high speed level checker. It uses a tiny crystal of cadmium sulphide, acting on signals from an x-ray tube. In one application, cans of beer are checked for tight seal and exact measure at the speed of over 900 containers per minute. Accuracy is within 30 drops, or plus or minus 1/64-in.

The crystal detector is placed at the desired height on one side of a conveyor line, with the x-ray tube on the other side. An electrical circuit actuated by the extra jolt from the tube at the passing of a substandard container opens an air-blast unit which blows the faulty container from the line. Made by **General Electric Co.**, X-Ray Dept., Dept. DG, 4855 Electric Ave., Milwaukee 1, Wis.

For more details circle NED-316 C3 on enclosed inquiry slip

AIR COOLING UNIT

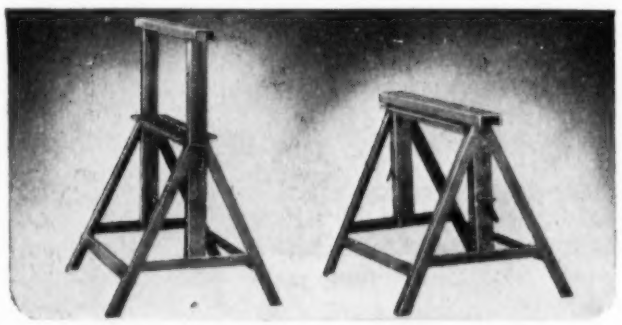
three models utilize evaporative cooling principle and have filters



Capacities of 2500, 4000 and 6000 cfm are available in line of Far-Air Package Coolers. Units consist of filters, cooler, motor driven blower and automatic flushing controls. Cooling effect is obtained by evaporation of water by air passing through unit. Equipment can also be used in conjunction with mechanical refrigeration type air conditioners to obtain increased capacity or to reduce the power consumption.

Golden Rotor consists of bronze mesh cylinder that revolves at 1½ rpm to pick up water from a reservoir and presents uniformly wetted surface to the air stream. Slow speed eliminates splashing and flying water droplets. Chemical brick is used to soften the water and prevent minerals from building up or depositing on the rotor. Regular flushing and drainage prevent minerals, fungus and other organic material from creating objectionable odors. This is performed automatically. Only power required is that needed to drive fan and rotate rotor. Made by **Farr Co.**, 2301 E. Rosecrans Ave., El Segundo, Calif.

For more details circle NED-317 C3 on enclosed inquiry slip



EVERY PLANT CAN USE ADJUSTABLE STEEL HORSES

They are the "work horses" in every plant or shop . . . more than pay for themselves, and are never idle because of the many uses their ready adjustability will easily serve:

SPOT WELDING TABLES	SCAFFOLDING
FABRICATION SUPPORTS	CONVEYOR SUPPORTS
LAYOUT WORK	MAINTENANCE WORK
BENCHES	And many other uses

MODELS FOR HEAVY OR LIGHT WORK

Standard length 36". Low Height 24"; Extended Height 42". Adjustable at 1½" intervals. Held in position by steel lock pins. All units portable. Painted one coat chrome yellow.

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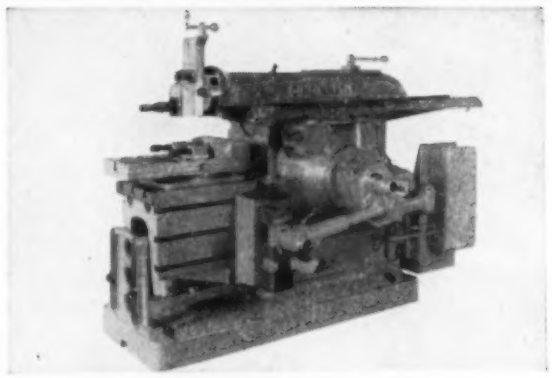
Brusco HANDLING EQUIPMENT

BRUMMELER STEEL PRODUCTS CORPORATION

1411 Ionia Ave., S. W. Grand Rapids, Michigan

For more details circle NED-318 C3 on enclosed inquiry slip

For more details circle NED-319 C3 on enclosed inquiry slip



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feature automatic pressure lubrication, electro magnetic brake and clutch, multiple cam feeds, horizontal and vertical power traverse.

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For more details circle NED-320 C3 on enclosed inquiry slip

AGASTAT

Compact . . . Dust-Proof

TIME DELAY RELAYS

solenoid actuated—pneumatically timed

Introduces time delays into a-c or d-c circuits. Easily adjusted to provide delays ranging from 0.1 second to five or more minutes.

The AGASTAT is small, light, and operates in any position. Dust-proof timing chamber assures long operating life with a minimum of maintenance.

Write for Bulletin. Dept. A1-35,

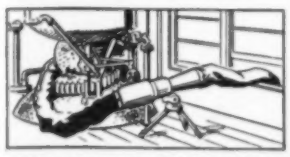
AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

For more details circle NED-321 C3 on enclosed inquiry slip

Ventilate CONFINED Places with Vano Design "C" Ventilator-Exhauster

WELDING FUMES are here removed by this Vano Ventilator-Exhauster.



FUMES FROM A REACTOR KETTLE are here withdrawn by tripod-mounted Vano Ventilator-Exhauster. Note non-collapsible suction tubing and discharge tubing.

Ideal for withdrawing welding fumes from confined places or directly from the welding rod. Provides greater safety, greater comfort for workers . . . leads to greater work efficiency. Can be furnished with 8" suction inlet to which 8" non-collapsible suction tubing may be attached . . . or provided with multiple inlet nozzles for 5", 4" and 3" suction hose.

Other types are also available for supplying fresh air to men working in confined places, such as tanks, manholes, drums, boilers and shipholds.

For full details on Coppus Vano Design "C" Ventilator-Exhauster write **COPPUS ENGINEERING CORPORATION**, 403 Park Avenue, Worcester 2, Mass.

ANOTHER **COPPUS** "BLUE RIBBON" PRODUCT

▲ For more details circle **NED-322 C3** on enclosed inquiry slip ▲

DUNHAM FIN-VECTOR RADIATION

Heats "just right" at *any* height

Any height above four inches from the floor is "just right" with Dunham Fin-Vector along outside walls.

Materials used provide rapid heat transfer. Choices of pipe and fin sizes and fin spacing assure adequate heat.

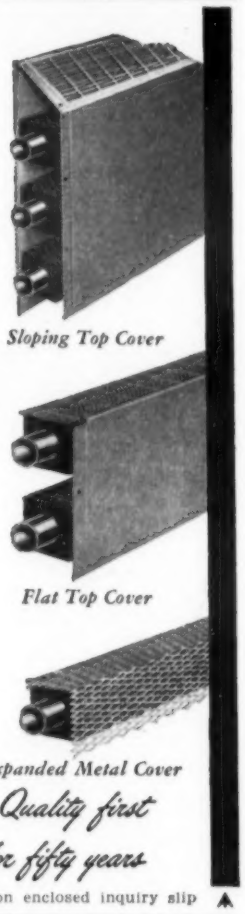
Easy to Install

Fin-Vector is light in weight, needs few supports, requires little on-the-job cutting, speeds assembly.

Three cover designs available with complete line of accessories to form tight, sturdy, "finished" looking installation.

For further information, write to Dept. 14 for File 1256-61.

C. A. DUNHAM CO.
400 W. Madison St. • Chicago 6, Illinois



Sloping Top Cover

Flat Top Cover

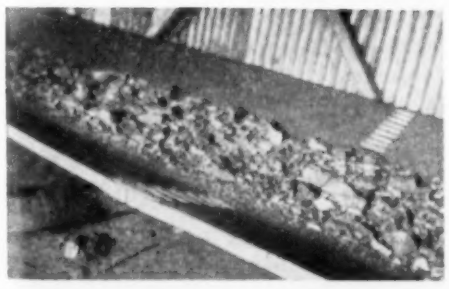
Expanded Metal Cover

DUNHAM

Quality first for fifty years

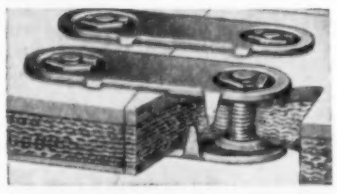
▲ For more details circle **NED-323 C3** on enclosed inquiry slip ▲

FLEXCO® BELT FASTENERS and RIP PLATES



FOR HEAVY CONVEYOR AND ELEVATOR BELTS OF ANY WIDTH

★ FLEXCO Fasteners make tight butt joints of great strength and durability.
★ Trough naturally, operate smoothly through take-up pulleys.
★ Distribute pull or tension uniformly.
★ Made of Steel, Monel, Stainless, Everdur. Also Promal top plates.
★ FLEXCO Rip Plates are for bridging soft spots and FLEXCO Fasteners for patching or joining clean straight rips.



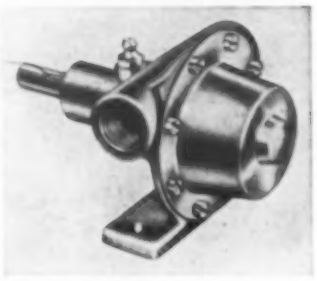
Compression Grip distributes strain over whole plate area

Order From Your Supply House. Ask for Bulletin F-100

FLEXIBLE STEEL LACING CO.
4664 Lexington St., Chicago 44, Ill.

▲ For more details circle **NED-324 C3** on enclosed inquiry slip ▲

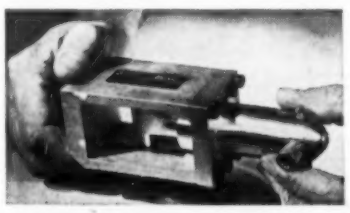
RUBBER IMPELLER PUMP
three sizes for general applications



General purpose Neovane rubber impeller pump features a tapered, eliptical-shaped impeller housing to eliminate the sudden impact of the impeller as it encounters the cam portion of the case. This increases impeller life and quietness. Three sizes are made: 3/8, 1/2 and 3/4-in. Body casting is marine brass, and stainless steel shafts are Alemite grease lubricated. Impeller housing is brass and removable for inspection. For stationary or portable applications, pump can handle liquids between 0 and 175° F. Made by **Lee Healey Co.**, Dept. 200, 554 W. Garfield, Glendale 4, Calif.

▲ For more details circle **NED-325 C3** on enclosed inquiry slip ▲

CABLE CUTTER
is explosive actuated device



Bundles of cables up to 1½ x 2¼ in. in size or fluid lines up to 1½-in. diameter can be cut cleanly by this B & W model 174-2-A-1 guillotine Destructor. Chopper blade is driven by means of a 38-caliber cartridge. Firing pin is actuated remotely by explosive cordeau, ignited electrically from a special explosion valve which incorporates safety devices. Primary purpose of device is to detach jettisoned sections of a vehicle. Made by **Beckman & Whitley, Inc.**, 934 San Carlos Ave., San Carlos, Calif.

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HOSE COUPLING & ADAPTER UNION
hydraulic unit leakproof at 5000 psi

Tests with the MR hydraulic hose coupling and adapter union show that even with hose as large as 1 and 1¼-in. inside diameters, standard O-ring seal

is leakproof at pressures up to 5000 psi when drawn up only hand tight. If ring is damaged, the Dryseal pipe thread allows continued operation until old ring can be replaced. Use of couplings allows for proper positioning of hose lengths. Coupler and union pipe threads are required only for the mechanical action of tightening parts. Hand tightening advantages include ease and speed of connecting and disconnecting couplings. Made by **Eastman Mfg. Co.**, Dept. NED, Manitowoc, Wis.

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TWO EASY WAYS TO GET COMPONENTS IN LARGE QUANTITIES

The first way is to make them yourself—of easily-machined Synthane laminated plastics. The second way is to let us make them for you—of the same light-weight, strong, hard, dense, chemically-resistant, dielectric material. We have the experience and facilities for fast, large-scale fabrication of parts. The coupon will bring you complete information.

SYNTHANE

Manufacturers of laminated plastics

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RODS • TUBES
MOLDED-LAMINATED
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SYNTHANE CORPORATION
N. E. River Road, Oaks, Pa.

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I'd like to know more about Synthane laminated plastics. Please send your catalog to . . .

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in braided and single part construction

Braided slings made by Wickwire give you these advantages:

- Extreme flexibility
- Non-kinking properties
- Better conformation to irregular surfaces
- More even load distribution
- Will not take a permanent set

Write or call our nearest sales office for full details.

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WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

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. . . with a Clipper CONSAW

Save up to 50% in labor and material. Saw repair patches—saw gas, water, conduit, and air line trenches in floors, runways and streets. Stops cracking and spalling—stops high maintenance costs.

. . . It's Yours on **FREE TRIAL**

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. . . by the MASONRY SAW Originators

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Every shape and size refractory **cut in seconds!** Perfect fitting reline jobs that last longer—cost less. A Clipper Model to fit any job—any budget SOLD ON FREE TRIAL

15 MODELS PRICED FROM $265

SAME DAY SERVICE FROM YOUR NEAREST FACTORY BRANCH —SEE BELOW

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CLIPPER SUPERIOR DIAMOND BLADES

. . . guaranteed to . . . "Consistently Provide the fastest cut . . . at the lowest cost . . . with the greatest easel" Clipper alone can supply every necessary metal bond . . . in over 36 specifications.

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COMPANY_____
ADDRESS_____
CITY_____ STATE____

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it's the finish that counts!

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in economy — in quality — in performance

Roto-Finish chips and compounds are carefully manufactured to fit your specific needs by the company that originated the Roto-Finish processes. They're specially designed to give the best results— faster — economically

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DW-45-36-2

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Roto-Finish COMPANY

associated with The Sturgis Products Co.

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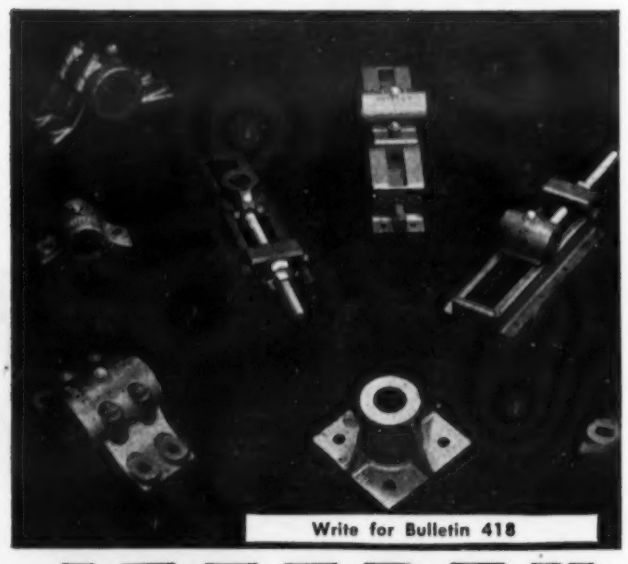
ORIGINATORS OF THE ROTO-FINISH PROCESS

For more details circle NED-331 C3 on enclosed inquiry slip

PILLOW BLOCKS AND TAKE-UPS



Write for Bulletin 418

JEFFREY

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THE JEFFREY MANUFACTURING CO.
952 Fourth St., Columbus 16, Ohio

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Hygrade Drives

Hygrade with Extended Shaft

Line-O-Power Right Angle

Foote Bros.-Louis Allis Gearmotors

Worm-Helical Gear Drives

If you have an application requiring vertical drives to operate at slow speed, you will find a complete line of enclosed vertical drives at Foote Bros. These drives are newly engineered with precision generated gearing backed by advanced engineering, new techniques in manufacture and better control of material. May be had with standard output shaft or with extended shaft. Mail the coupon for information.

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Dept. NE, 4545 So. Western Blvd., Chicago 9, Illinois

Please send me information on Foote Bros. Vertical Drives.

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Address.....

City.....State.....

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PRESSURE FILTER
tank type for chemicals and oils

Series of synthetic rigid porous stone membranes upon which a filter aid is deposited is incorporated in this tank type pressure filter. Intended for filtering of chemicals, electroplating solutions and oils; recovery of wastes and treatment of waste water, the filter provides for formation of a controlled clarity filtration and allows a fast and thorough backwash. Filtration cycle is lengthened as the filtering surface is constantly increasing in size. Cleaning and sterilization is accomplished without opening the chamber. Filter is available in all capacities in all metals and alloys, as well as plastic and rubber lined. Made by **Ogden Filter Co.**, Dept. 5-G, 4214 Santa Monica Blvd., Los Angeles 29, Calif.

For more details circle NED-334 C3 on enclosed inquiry slip

INFRARED METER
measures radiant energy intensity

Radiant energy intensities up to 10 w per square inch can be measured by the type DW-69 infrared meter. In a few seconds, it determines the intensity of high range radiant energy sources and the infrared radiation effects concerning absorption and transmission properties of materials. The pocket-size radiation receiver is a sensitive thermocouple designed for such work. Housed in a Textolite case, it has an accuracy of plus or minus 5 per cent of full scale value over a response range of 300-3500 millimicrons or 3000-35,000 angstroms. Made by **General Electric Co.**, Schenectady 5, N. Y.

For more details circle NED-335 C3 on enclosed inquiry slip

DO YOU KNOW? Some 5000 years of progress in the forging of metal will pass before your eyes in 20 minutes when you view a sound motion picture that traces the use of pliers and wrenches through the centuries. Three-dimensional activated dioramas show ancient methods and other scenes show the making of drop forged wrenches. Film is available from Utica Drop Forge & Tool Corp., 2500 Whitesboro St., Utica 4, N. Y.

For more details circle NED-336 C3 on enclosed inquiry slip

IMMEDIATE SHIPMENT
STYLE 300 STACKING BOX

ALL PRICES F.O.B. FACTORY, PHILA.

COMPLETE CATALOG ON REQUEST

Just right for small parts. Light in weight. Easy to handle. Equipped with drop handle each end. Runners save wear on bottom of box and act as positive stacking lock. Will stack with style 700 stacking bin of the same length and width.

OTHER SIZES AND STYLES AVAILABLE

Product Number	Width	Length	Height	Gauge Steel	Price Plain	Price Green
301-20	6"	9"	3½"	20	$ .85	$ .98
302-20	8"	12"	4"	20	$ .96	$1.09
303-19	9"	13½"	4½"	19	$1.20	$1.38

PHONE • WIRE • WRITE

BAldwin 9-1805

BAY PRODUCTS, INC.

3009 N. 16TH ST. • PHILADELPHIA 32, PA.

For more details circle NED-337 C3 on enclosed inquiry slip

INSULATING VARNISHES—Air drying types have wide range of application

Air drying insulating varnishes and enamels are extensively used for quick repair and maintenance work and as a means of improving the final appearance of electrical windings which have already been impregnated with other types of insulating varnish.

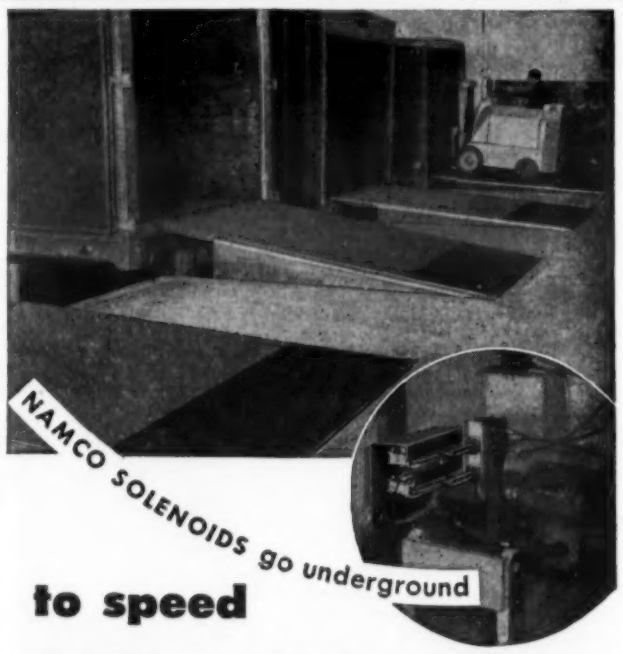
The air drying varnishes are made in both black and clear types, and, in addition to their application for touch-up work on insulated windings, are used on many other types of electrical equipment, such as switch boxes, battery trays, conduit and signal boxes and on metallic surfaces in general for appearance and protection.

Irvington Red Enamels protect windings from corrosion and improve dielectric properties

Air drying enamels can be obtained in either red, black or gray and are primarily designed to protect insulated windings from the harmful effects of oil, moisture, chemicals, water and grease. The most popular are No. 32 Red Enamel, designed to give the fastest drying time consistent with good protection under most conditions; and No. 30 Red for especially severe service.

Technical data sheets on air drying insulating varnishes and finishing enamels available from: Sales Manager, Varnish Department, Irvington Varnish & Insulator Company, 14 Argyle Terrace, Irvington 11, New Jersey. *Advt.*

For more details circle NED-338 C3 on enclosed inquiry slip



to speed multiple dock loadings

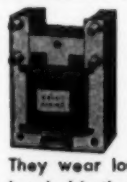
Here is a battery of 5 Dock Ramps over which Addressograph-Multigraph Co. Cleveland, moves scores of truck loadings in and out each day . . . *"materially reducing waiting time of highway carriers and increasing volume of merchandise handled per man hour."*

Engineered and built by Beacon Machinery Inc., East St. Louis, Illinois, these 10-ton capacity ramps provide ± 12" vertical and 14" horizontal travel—are automatically leveled. Each ramp is operated by 2 hydraulic rams located in each pit, all remote push button controlled through

Namco "Stellite"-Welded Solenoids

Namco Solenoids were first built with stamina to satisfy our own hydraulic machine tool needs; they are now standard equipment in 85% of the machine tool industry —many of which are engineered to the job.

Either AC or DC type solenoids may be specified. Standard ratings range from 2½ to 25 lbs. at 1" stroke. Ask your engineers to talk with ours. Catalog EM-52.



COMPACT • DEPENDABLE • TROUBLE-FREE

These compact electrical Solenoids are more positive and less costly than cumbersome mechanical contrivances that require frequent inspection and replacements.

They wear longer because the patented "Stellite"-Weld is bonded in the end of the plunger at its vital point of impact against the frame. In addition, upper guide faces of the plunger are hard chrome plated—wear resisting.

ELECTRICAL MANUFACTURING DIVISION

The NATIONAL ACME CO.

182 E. 131st Street, Cleveland 8, Ohio

Acme-Gridley Bar and Chucking Automatics, 1-4-6 and 8 Spindle —Hydraulic Thread Rolling Machines—Automatic Threading Dies and Taps—Limit, Motor Starter and Control Station Switches—Solenoids—Contract Manufacturing.

For more details circle NED-339 C3 on enclosed inquiry slip

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle NED-340 C3 on enclosed inquiry slip

SPEED LOAD HANDLING for Truck, Shop or Machine

UNIT utility HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

UNIT MFG CO. 1223 Harmon Place Minneapolis 3, Minnesota

For more details circle NED-341 C3 on enclosed inquiry slip

What the eye does NOT see is the miracle of graphic arts engineering that is a part of every Meyercord Decal Nameplate. As the illustration-diagram indicates, the Meyercord Decal starts with a specially engineered adhesive and stacks color upon color, topping it all with a tough protective coating.

The Meyercord Decal Nameplate you apply to your product is the result of vast experience and never-ending engineering improvement. Just "any" decal won't do the job. Today's multiplicity of commercial surfaces and finishes demand exhaustive pre-testing to make very sure your Meyercord Decal Nameplate lasts the full life of the product.

Meyercord Decals cut production costs when used as nameplates, trademarks, instructions, markers, wiring diagrams, safety warnings and other important applications. Write for full information about our complete technical and designing services.

Specify Meyercord Decals to

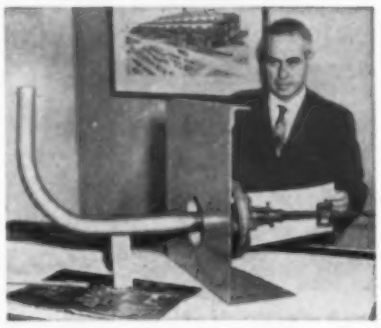
Write for the big Meyercord "Mark-It" Decal Nameplate Manual... FREE

Shows hundreds of uses for durable, washable decal nameplates. The "Mark It" manual is FREE . . . request it on your business letterhead, please.

THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers
DEPT. C-316
5323 WEST LAKE STREET
CHICAGO 44, ILLINOIS

For more details circle NED-342 C3 on enclosed inquiry slip

GAS HEATER for corrosive acid solutions



Ferrolum lead clad steel is used in the construction of this direct-fire gas burner for heating of corrosive solutions, such as sulphuric, chromic and phosphoric acids and others. Metal combination gives unit strength, corrosion resistance and good heat transfer properties. The tube at right of picture feeds gas into mixer, while air is admitted at opposite end of mixer. The burner is ignited at this point and flame passes through flange nozzle to Ferrolum tube shown at left. In service, this tube is inside the tank and immersed in acid. Temperature developed in the tube is dissipated by acid to preclude possibility of damage to lead itself. Made by **Knapp Mills, Inc.**, 23-00 Borden Ave., Long Island City 1, N. Y.

For more details circle NED-343 C3 on enclosed inquiry slip

HYDRAULIC PUMPS & MOTORS can reverse quickly under full load

Suitable for either open or closed hydraulic circuits, Heavy Duty series of positive-displacement axial-piston type pumps and motors are particularly adapted to heavy machinery drives requiring precise control of torque, acceleration and deceleration, speed or reversal. Motors in this series can reverse quickly under full load and will run at extremely slow speeds under full torque. Applications include marine steering gears, winches and hoists; draw bridge lifts; large presses and machine tools; and rotary machine drives. Available are 10 sizes with capacities of 28 to 2300 gpm at rated speeds, and 50 to 4000 hp in pressure range of 2000-3000 psi. Made by **Vickers Inc.**, Waterbury Tool Div., 160 E. Aurora St., Waterbury 20, Conn.

For more details circle NED-344 C3 on enclosed inquiry slip

DO YOU KNOW? You can get, for free, a desk aid if you're a user of carbides. Offered in the form of a self-adhering 4 x 9-in. sticker, this unit combines a decimal-equivalent chart, ruler and 1953 calendar into a practical reference. Just write to Adamas Carbide Corp., Dept. 3a, 1000 S. Fourth St., Harrison, N. J.

For more details circle NED-345 C3 on enclosed inquiry slip

AIR CYLINDER WITH CHOICE OF BUILT-IN VALVES

The Bellows Air Motor—the only air cylinder with *built-in* valve and operating controls — now offers a choice of six separate valving arrangements. Now the engineer can choose the method of valving he prefers and still have all the advantages that integral construction means: jet-quick action, compactness, sure-fire control, simple installation.

Learn more about this newest development in the Bellows Air Motor. Write for your copy of Bulletin CL-50, just off the press. Address Dept. NED-353,

The Bellows Co.
ESTABLISHED 1911
AKRON 9, OHIO

For more details circle NED-346 C3 on enclosed inquiry slip

HERE'S THE TEAMMATE FOR YOUR LATHE

Get fast, convenient grinding of lathe centers, cutters, reamers, rolls and dies. You can do it with THE CINCINNATI Ball Bearing Tool Post Grinder!

THE CINCINNATI mounts on the compound rest of any lathe with a 9" swing, or larger. It grinds within 2½" of the maximum swing . . . can be swivelled around the clamping bolt . . . spindle height is readily changed. Motor mount is adjustable for easy maintenance of belt tension. Write today! Ask for name of your distributor or Bulletin 53-ED.

THE BEST IN DRILLS, GRINDERS, BUFFERS, PORTABLE TOOLS

TRADE The Cincinnati MARK

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

For more details circle NED-347 C3 on enclosed inquiry slip

FACTS ABOUT BEARING DESIGN to help you select the Best A-c. Motor

All in this one Bulletin

15-POINT COMPARISON CHART
STATEMENTS BY BEARING MANUFACTURERS
CUTAWAY DRAWINGS AND PHOTOS

RELIANCE Precision-Built MOTORS

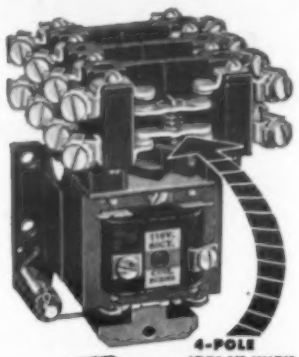
Call your nearest Reliance Sales Representative or write us direct for your free copy of this fact-filled bulletin on the vital differences in the bearing designs of A-c. motors. Ask for Bulletin B-2201. B-49

RELIANCE ELECTRIC AND ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Representatives in Principal Cities

For more details circle NED-348 C3 on enclosed inquiry slip

Bulletin 700 UNIVERSAL SOLENOID RELAY



4-POLE RELAY WITH UNIVERSAL CONTACTS

Change from NORMALLY OPEN Contacts to NORMALLY CLOSED Contacts by Simply Shifting Connections

The Allen-Bradley Bulletin 700 universal solenoid relays are a new idea in relay design. The new dual contact arrangement permits quick change from normally open contacts to normally closed contacts by simply shifting connections . . . a simple and easy operation. Only ONE moving part. Rating of 10 amperes at voltages up to 600 volts. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY QUALITY MOTOR CONTROL

▲ For more details circle NED-349 C3 on enclosed inquiry slip ▲

DOUBLE-ACTION AIR CYLINDERS

FACE MOUNTED CYLINDER

HORIZONTAL MOUNTING

VERTICAL MOUNTING

SUSPENDED OR SWIVEL MOUNTING

Mounting	Bore				
Horizontal	1½"	2¼"	3"	4"	5"
Vertical	1½"	2¼"	3"	4"	5"
Face	1½"	2¼"	3"	4"	5"
Swivel	1½"	2¼"	3"	4"	5"

Length of stroke optional

The new Mead Air Power Catalog shows the full line of single and double-acting cylinders, and air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for faster, money - saving production.

Write!

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE. DEPT. NA-33, CHICAGO 41, ILL.

▲ For more details circle NED-350 C3 on enclosed inquiry slip ▲

DISCOVER

how AIR POWER can speed your production jobs

Find out how Air Power delivered by Ingersoll-Rand Type 30 Compressors, can save time, money and man-hours in your operations. Here are facts and figures every man responsible for production should have. Also, the reasons why Type 30 Compressors give you a *greater* volume of compressed air per hp input.

782-3

CLIP AND MAIL, NOW

INGERSOLL-RAND CO., 11 Broadway, New York 4, N. Y.

Please send me, at no obligation, Booklet 1502-D on the complete line of I-R Compressors.

NAME_____ TITLE_____

COMPANY_____

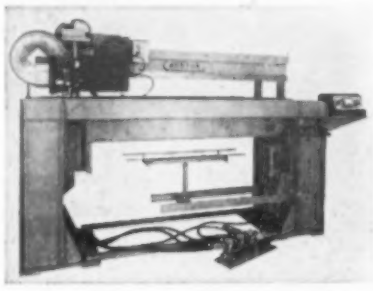
ADDRESS_____

CITY_____ ZONE____ STATE_____

(Please Print)

▲ For more details circle NED-351 C3 on enclosed inquiry slip ▲

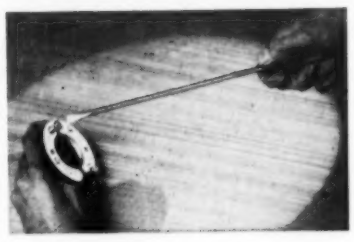
STAKE WELDING MACHINE
seam does not separate under load



Flat clamping with no tendency for seams to separate under load is offered by the model A stake welding machine. Improved model also offers minimum operator interference and good visibility in the welding area. The stake is mounted on an air-actuated vertical slide and is supported and aligned at the outer end by a manually operated shot pin. Interlocking air valves protect the machine from improper operating sequences and a manually operated gage bar is built into the machine. Wide range of sizes is available. Made by **Morton Mfg. Co.**, Broadway & Hoyt, Muskegon Heights, Mich.

▲ For more details circle NED-352 C3 on enclosed inquiry slip ▲

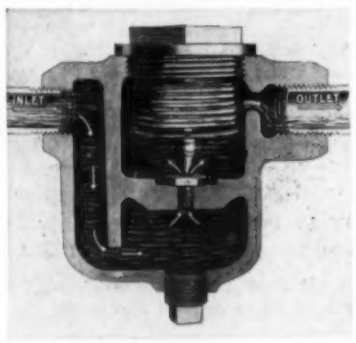
LONG-SHANK SCREWDRIVER
is nonmagnetic and nonsparking



Made with a 10-in. shank, the Xcelite screwdriver has a ¼-in. blade that is flared at the tip and is tapered to fit snugly in screws in inaccessible locations. Tool is nonmagnetic, fatigue resistant and nonsparking. Made by **Xcelite, Inc.**, Dept. NE, Orchard Park, N. Y.

▲ For more details circle NED-353 C3 on enclosed inquiry slip ▲

STEAM TRAP
for steam radiators, air convectors



For use on steam radiators and gravity air convectors, the O.B.T. steam trap operates with maximum pressure of not over 100 psi. It delivers condensate at temperatures between 190° and 205° F when the return line pressure is zero. Bellows does not open and close valve in cycles, but, for a given condensate rate, holds stationary in partially opened position. Unit eliminates flash steam and assures long life since bellows is not exposed to pressures higher than that of return line. When return line pressures are atmosphere or less, trap can be readily checked without removing it from line. Made by **Coe Mfg. Co.**, 507 Bank St., Painesville, O.

▲ For more details circle NED-354 C3 on enclosed inquiry slip ▲

Quick as a wink measure both AC and DC

WITH A COLUMBIA TONG TEST AMMETER

(Voltage attachment available)

- Both AC and DC ampere readings are made instantly and accurately without breaking circuit or scraping insulation
- Operated with one hand by merely clamping tongs around conductor
- Cannot burn out
- Scale ranges up to 1000 amperes AC or DC
- Voltage attachment reads up to 600 volts
- Five types to accommodate cables up to 3⅞", bus bars up to 4½"x½"

Write for Tong Test Bulletin ND-400

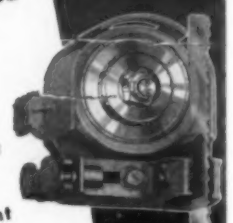
COLUMBIA ELECTRIC MFG. CO.

4525 Hamilton Ave., Cleveland 14, Ohio

▲ For more details circle NED-355 C3 on enclosed inquiry slip ▲

5 GOOD REASONS WHY Carter Micro-Precision Guides

Safely and Accurately Speed Band Sawing



1 Hold the saw blade rigidly and close to the work allowing blade to cut better at all speeds.

2 Simple micrometer-type adjustment permits SAFE adjustment while blade is running.

3 Low-cost guide wheel and jaw blocks are designed to take the wear instead of costly saw blades. Easily and quickly replaceable.

4 Single set of jaw blocks reduces saw blade wear by 50%.

5 Guide Wheels have either precision grease-sealed ball bearings or oilite. Neither need lubrication.

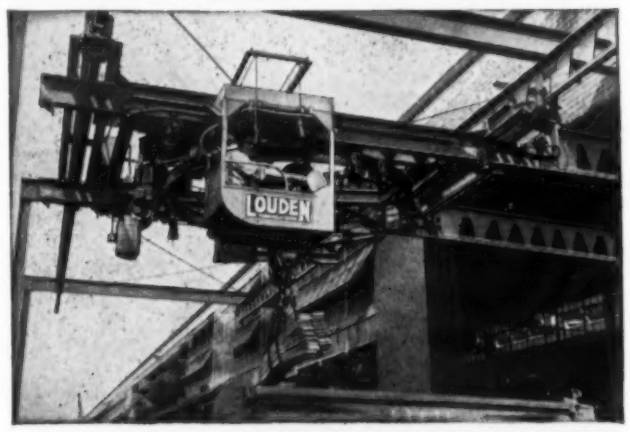
• Write for literature.

CARTER PRODUCTS COMPANY, INC.

421 Wm. Alden Smith Bldg. 30 Ionia Ave., S. W. Grand Rapids 2, Michigan

▲ For more details circle NED-356 C3 on enclosed inquiry slip ▲

UNLOADING OR LOADING CARS WASTING YOUR MEN & MONEY?



Louden OVERHEAD HANDLING OFTEN PAYS FOR ITSELF IN A FEW MONTHS BY LETTING 2 OR 3 MEN DO WORK OF A SLOW AND COSTLY "BULL GANG"

Getting things in and out of your plant a problem? Labor hard to find and hard to keep? Handling too slow; machines down time and again waiting for raw stock or parts? Labor costs and demurrage charges driving you mad? **You** need a Louden Crane like the one shown here . . . hundreds of plants have found them the **perfect** answer to their railroad siding problem. And many use them to load and unload open body trucks as well as gondola and flat cars.

Loading docks can be eliminated entirely because materials received can be moved directly to warehouse or start of fabrication on the overhead tracks, to any location inside building. Conversely, such a system can deliver finished products into waiting cars or trucks without intermediate handling. Length of runway can cover entire siding or truck lane, if desired. Design can meet any need for weight or bulk. Ask a Louden engineer about **your** problem. Wire or write **now.**

FREE ILLUSTRATED BOOK

Case histories telling how Louden Handling Systems have saved time and money for widely different kinds of industries are described and pictured in a new 56-page book called, "Economical Material Handling". Write for it.

THE LOUDEN MACHINERY COMPANY

7421 S. Superior Ave., Fairfield, Iowa

Louden

OVERHEAD MATERIAL HANDLING

▲ For more details circle NED-357 C3 on enclosed inquiry slip ▲

Hear Here!

Loudness Reduced 50%* Inside a BURGESS-MANNING ACOUSTI-BOOTH

In the hushed interior of this roomy, airy acousti-booth you hear easily while telephoning. Walls of thick, sound absorbing material, and patented construction reduce the loudness of noise by 50%.

When you invest in a Burgess-Manning Acousti-Booth you are purchasing better communications . . . good hearing means fewer errors.

Model 211 Floor Booth

* Based on studies by a prominent research organization.

Write for Bulletin A-107

BURGESS-MANNING COMPANY

Architectural Products Division

5970-C Northwest Highway, Chicago 31, Illinois

For more details circle NED-358 C3 on enclosed inquiry slip

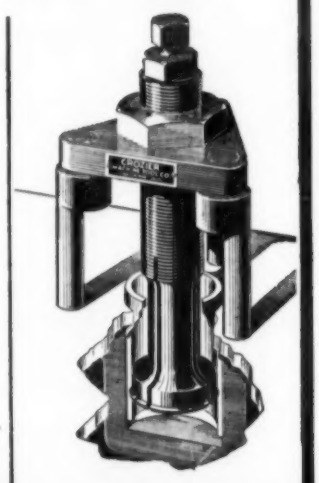
NEW EXTRACTOR

removes bushings from blind holes

. . . cuts time 75 per cent

The entirely new method of extracting bushings, bearings, sleeves, liners, etc. Eliminates necessity for machining, minimizes the hazard of injury to casings or excessive dismantling of equipment, handles holes from ½ to 2"—over 5 tons have been extracted with unit. Eliminates as much as 75 per cent of labor and time, slashes inventory.

For complete information write Department NED-3

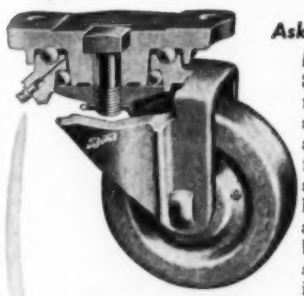


CROZIER Machine Tool Co.

684 NO. PRAIRIE AVENUE, HAWTHORNE, CALIFORNIA

For more details circle NED-359 C3 on enclosed inquiry slip

This Bond® 36-A Caster is Your Best Buy for DEPENDABLE SERVICE



C-136-A Series—Double Ball Race Swivel Caster equipped with Roller Bearing Celoron Wheels.

Ask your industrial distributor . . . he knows that Bond 36-A Series Casters fit most service requirements. These universally used, completely dependable casters incorporate a fork, base and king bolt construction that distributes the load *evenly*. Two ball races of almost equal diameter, set one below the other, permit *easy swiveling*. All moving parts in the ball race are pressure lubricated.

Remember, *your best buy is Bond*—and your distributor will be glad to help you select the right Bond casters for your jobs. Ask your distributor for a copy of the Bond Catalog K-38 or write direct.

Bond 1-A Series Stationary Truck Casters give dependable service as companion casters to the Bond 36-A Series Casters.

BOND FOUNDRY & MACHINE CO.

Manheim, Penna.

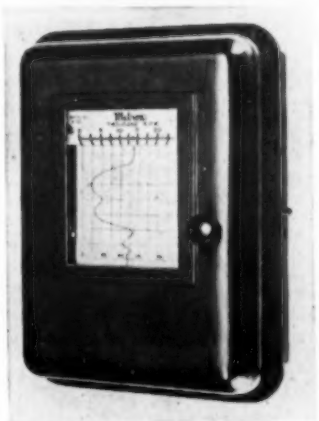
For more details circle NED-360 C3 on enclosed inquiry slip

PISTOL GRIP PUMP OILER broad base prevents tilting

Features of this all-purpose pistol grip pump oiler include broad base to prevent tilting and positive-acting hydraulic pump mechanism. No pump leathers nor soldered connections are used in pump mechanism, and all pump parts are renewable. Made by **Eagle Mfg. Co.**, Charles St., Wellsburg, W. Va.

For more details circle NED-361 C3 on enclosed inquiry slip

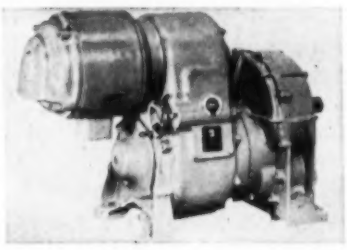
HIGH SPEED RECORDERS used with tachometer indicators



Eighteen different speed ranges from 0-50 to 0-100,000 rpm, fpm, ipm, cycles per min, yd per hr or virtually any other units can be recorded with these series 81M strip chart recorders. Of G-E type, instruments are modified for use with company's tachometer indicators and heads. Inkless recording is used, and charts are 4 in. wide by 65 ft long. Chart speeds are 1 or 3 iph. Distributed by **Metron Instrument Co.**, 436 Lincoln St., Denver 9, Colo.

For more details circle NED-362 C3 on enclosed inquiry slip

VARIABLE SPEED DRIVE heavy duty, double reduction type



Speed variations of 2:1, 3:1 and 4:1 are built into type KFEB double reduction 20 and 25-hp Speed-Trol heavy duty drives. These self-contained electric power drives provide infinitely variable speed in the low speed ranges. The 20-hp type 364 KFEB (illustrated) is offered with maximum speeds ranging from 176 to 42 rpm and the 25-hp type 365 KFEB with maximum speeds from 176 to 64 rpm. Speed changes are through variable pitch pulleys. Drip-proof and splashproof models feature direct-through ventilation. Totally enclosed, fan cooled model has dual cooling system for internal and external cooling. Made by **Sterling Electric Motors, Inc.**, Dept. NED, 5401 Anaheim-Telegraph Rd., Los Angeles 22, Calif.

For more details circle NED-363 C3 on enclosed inquiry slip

4 to 5 Times LONGER LIFE

Dressing Time REDUCED BY TWO THIRDS

CARBON BRAZING TIPS

. . . with the famous Stackpole "F" Treatment

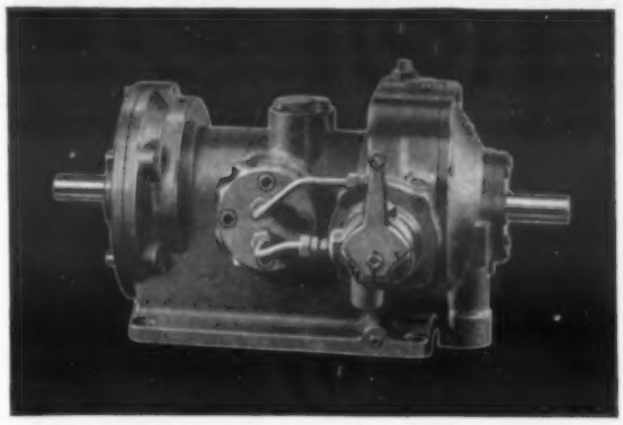
STACKPOLE'S recently developed "F" treatment for its Carbon Brazing Tips has resulted in units that operate at temperatures above red heat, require dressing far less often, and increase tip life four to five times that of untreated carbon by minimizing oxidation. Their resistance to cracking or spalling permits more radical temperature changes than is possible with any other material.

SAMPLES . . . sent for test. State size and shape. Mention company affiliation.

STACKPOLE STACKPOLE CARBON CO. ST. MARYS, PA.

EXPORT: Stackpole Carbon Co., 254 W. 34th St., New York 1, N. Y., U. S. A.

For more details circle NED-364 C3 on enclosed inquiry slip



ANY-SPEED OILGEAR FLUID POWER TRANSMISSION Solves drive problems —Improves machine performance

Even machines that lead their fields have benefited greatly by a change to the *ANY-SPEED* Oilgear Fluid Power Transmission . . . simply because top machine performance often depends on a speed flexibility other drives just don't have. The *Any-Speed* Oilgear is *just that*—from zero to 1600 r.p.m. And once you pick your best speed it stays there . . . or until you want to change. Smooth shading of speed all the way up or down. Full control manually, hydro-electrically, pushbutton or automatic remote. Small, durable, dependable, this "power package" installs easily, ends drive trouble, saves power, cuts maintenance to a sliver. Simple, accessible design. Drives off any constant speed source. Write for descriptive Bulletin 67110A. THE OILGEAR COMPANY, 1582 West Pierce St., Milwaukee 4, Wis.

For more details circle NED-365 C3 on enclosed inquiry slip

PRODUCTION UP COSTS DOWN WITH Commander PRODUCTION TOOLS

Adjustable MULTI-DRILL

- Adjustable To Any Hole Pattern
- Drill 2 to 8 Holes at 1 Stroke
- Fits Any Drill Press

MODEL 900

Increase production up to 800%—save time, cut costs. Mounted without alterations or special tools. 9" drilling area; centers to ½". Extension Spindles available to increase area to 22½". Special adaptations available.

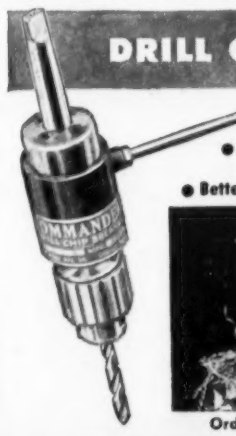
"the tapper that thinks for its operator"

Commander TAPPER

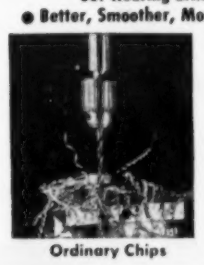
- Wider Range . . . 1 Tapper Handles #0 to ¾" Taps
- Automatic Tap Protection
- Furnished to Fit Any Drill Press

Adjustable full range torque control instantly stops any tap when it's dull, loaded, strikes a hard spot, or bottoms in blind hole tapping. Assures maximum production, cuts rejects, even with inexperienced operators.

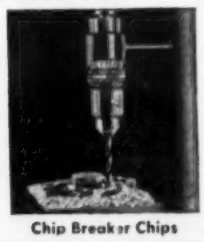
DRILL CHIP BREAKER



- Drill SHALLOW or DEEP Holes up to 400% Faster
- Drill 10 diameters or more in depth without clearing drill
- Better, Smoother, More Accurate Holes



Ordinary Chips



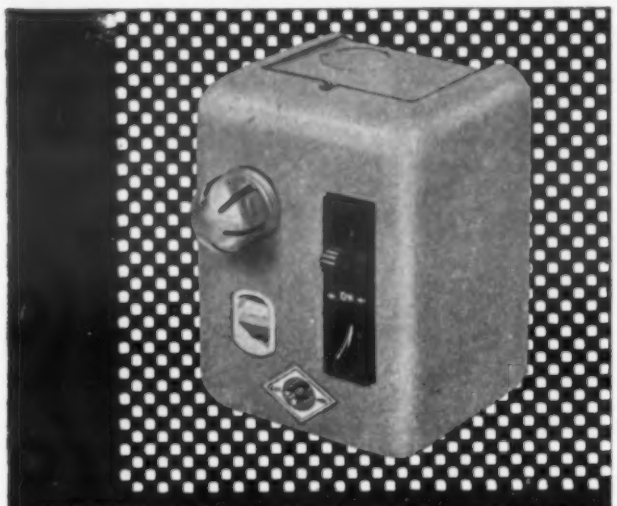
Chip Breaker Chips

Write FOR CATALOG #851 and the name of your nearby Commander Distributor

Commander MFG. CO.

4220 W. KINZIE STREET CHICAGO 24, ILLINOIS

For more details circle NED-366 C3 on enclosed inquiry slip



INDIVIDUAL PROTECTION STATION ... install anywhere

SAFELETS are on-the-spot protection either for your circuits or the equipment plugged-in. Used on assembly lines, test benches or for specific appliances, a Safelet can isolate a short circuit power interruption to this one receptacle . . . avoiding production stoppages. Employing HEINEMANN hydraulic-magnetic circuit breakers, Safelets can be turned ON immediately after the fault has been cleared . . . there is no waiting to reset.

Available in ratings up to 15 amps. or 1 HP, with or without pilot light, and in various female receptacle styles. WRITE FOR BULLETIN NO. 1010.

HEINEMANN ELECTRIC CO., 106 Plum St., Trenton 2, N.J.

For more details circle NED-372 C3 on enclosed inquiry slip

Don't Walk... TALK!

The NEW Executone Intercom saves steps, increases output, cuts costs!

Compute the cost of time wasted by executives and employees running back and forth. *That's how much* the NEW Executone Intercom can save you! Your voice—with lightning speed—gets information, gives instructions. Every working hour becomes more productive for you and your employees. "Inside calls" no longer tie up telephone lines. Office and plant operate at a new peak of efficiency!

Years ahead of its time in operation and design!

Executone's exclusive "CHIME-MATIC"® Signalling announces calls by chime and signal light. Calls may be answered from across the room—yet privacy is assured. New switching circuits for every need make new savings possible. Voices are clearer, distinct, instantly recognizable. Inexpensive 2 station system easily expanded. It will pay you to get the whole story. Just mail the coupon.

Executone

COMMUNICATION & SOUND SYSTEMS

GET THE FACTS

EXECUTONE, INC., Dept. C-5.
415 Lexington Ave., New York 17, N. Y.

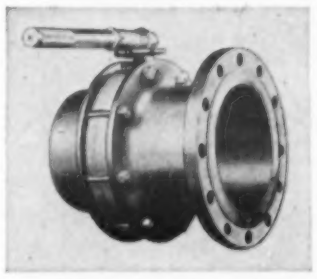
Without obligation, please let me have:

☐ The name of your local Distributor.
☐ Complete descriptive literature.

Name.....Title.....
Firm.....
Address.....City.....

For more details circle NED-373 C3 on enclosed inquiry slip

BUTTERFLY VALVE for sludge or dry material lines



Featuring a design that permits use of any combination of interchangeable end connections, this butterfly valve is recommended for use on liquid, sludge or dry material lines. Disk seals in resilient, oil and acid-resistant seat and provides complete shutoff against pressures up to 150 psi, or against vacuum. Seat, disk and handle, can be removed for cleaning or replacement without disconnecting the line. Handle mechanism is indexed to hold valve in fully open or closed position. Sizes from 2 through 12 in. and in any combination of threaded, flanged or welding end connections can be furnished. Bodies and disks can be steel, bronze, aluminum or other alloys. Made by **Keystone Tool Corp.**, Dept. N, 5325 Kirby Dr., Houston, Tex.

For more details circle NED-374 C3 on enclosed inquiry slip

PORTABLE POTENTIOMETER is indicating type instrument

Self-contained and fully portable, this potentiometer indicator spots impending thermocouple failures, tests the operation of other pyrometer instruments, and checks such equipment as heating units and test furnaces which do not warrant continuous measurement. It also serves as standby to replace any installed potentiometer that may be out-of-service temporarily. Enclosed in metal case, unit has removable cover that protects operating knobs and dials, and clip to hold report blanks or data sheets. Accurate readings are possible on the 17-in. scale. Accuracy is within ¼-per cent. Made by **Foxboro Co.**, 26 Neponset Ave., Foxboro, Mass.

For more details circle NED-375 C3 on enclosed inquiry slip

DO YOU KNOW? Dust promises to be a thing of the past, not to the point of eliminating hay fever sneezes or polishing of furniture, but in the sand blasting of ship hulls. Shipside model Vacu-Blaster, which uses a vacuum system to reclaim abrasive and eliminate the dust problem, allows two men to do the work of 12 to 15 blasting and cleanup men using conventional equipment. With steel grit as the abrasive, rust, dirt and old paint is removed and a dust-free surface left. Coverage is up to 600 sq ft per hour. This boon to clean operation is made by Vacu-Blast Co., Belmont, Calif.

For more details circle NED-376 C3 on enclosed inquiry slip

LETS EXPANSION KEEP ON THE MOVE

PENFLEX TUBING

ABSORBS THERMAL EXPANSION...PROVIDES FLEXIBILITY

Write for this helpful folder, "Flexineering."

Thermal expansion moved rigid steel feed pipes in a large power plant, showered coal dust on equipment and floors.

Then Penflex "Flexineering" recommended a flexible "overcoat" of interlocking galvanized steel. Penflex tubing now forms a flexible seal between hopper and tube, protects delivery of powdered fuel.

Let "Flexineering" help you, with Penflex interlocking and seamless welded corrugated flexible tubing . . . metallic hose, tubing or coupling . . . automatic barrel fillers, rivet passers, and accessories.

Pennsylvania Flexible Metallic Tubing Co., Inc., 7208 Powers Lane, Phila. 42, Pa.

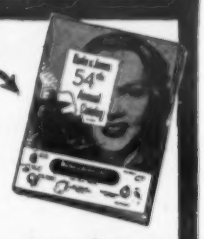
PENFLEX

HEART OF INDUSTRY'S LIFE LINES

For more details circle NED-377 C3 on enclosed inquiry slip

PHOTO EQUIPMENT... Geared to SCIENTIFIC and INDUSTRIAL Uses

FREE CAMERA, LENS and EQUIPMENT **CATALOG**



NEW—72 pages crammed with THOUSANDS of newest PHOTO TOOLS, CAMERAS, LENSES, PROJECTORS, Lighting Equipment, Developing Equipment, ENLARGERS, etc. for the amateur and professional, in every day SCIENTIFIC and INDUSTRIAL work.

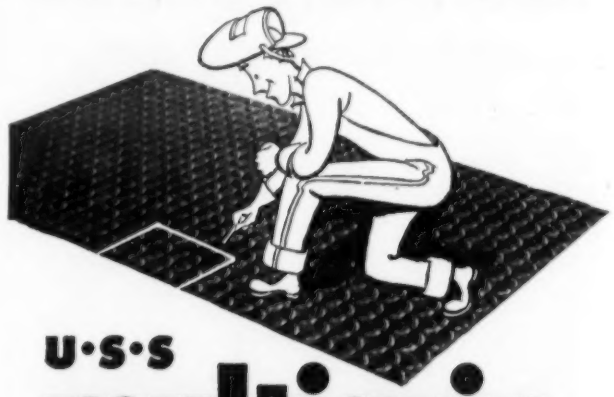
CAMERAS	Commercial — Recording — Identification — Special Purpose — Polaroid Land Back — Laboratory — Photomicrography — etc.
ENLARGERS	Reducers — Copying, etc.
LENSES	Largest stock from 3/8" to 72" — all speeds — Portrait — Commercial — Wide Angle — Tele-Lens — Coating, etc.
PRINTING EQUIP.	35 Mm. to 8x10 in. etc.
PROJECTORS	Demonstration and Instruction.
LABORATORY EQUIP.	Stainless Steel, Slide Equip., Dryers, etc.

Fine Photographic Equipment For Over 54 Years

Burke & James, Inc.
311 S. Wabash Ave., Chicago 4, Ill. U.S.A.

For more details circle NED-378 C3 on enclosed inquiry slip

You can cut and join this floor plate to any shape you need,
And Multigrip will fabricate with utmost ease and speed;
For Multigrip is so designed to make the sections match
Placed end to end, or side to side, or in a side-end patch...
The pattern that is formed will be the same from all directions,
And Multigrip needs fewer joints; it comes in bigger sections!



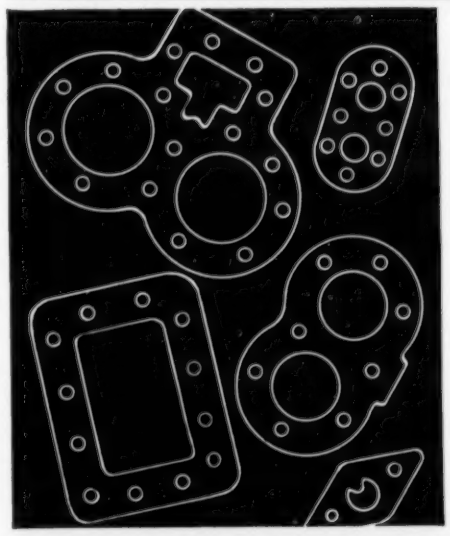
U·S·S multigrip FLOOR PLATE

UNITED STATES STEEL CORPORATION, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Sold by leading distributors from coast to coast 3-68

UNITED STATES STEEL

For more details circle NED-379 C3 on enclosed inquiry slip



Chemical and Oil Resistant GASKETS

In sizes up to 36", moulded, extruded, clicked or hand cut . . . from special plastic or rubber formulations. High and low temperature applications. Our own mold shop facilitates fast mold production, means close supervision of mold design. Extensive chemical and compounding labs assure accurate formulations for your specific needs.

63C

COLONIAL RUBBER CO.
Oakwood St., Ravenna, Ohio

For more details circle NED-380 C3 on enclosed inquiry slip

Speed Up Material Handling

Here's a handy, mobile crane for lifting or loading jobs around your plant. Ideal for dismantling, moving or erecting machinery . . . loading and unloading structural iron, pipe, bars, lumber and equipment of all types. The UNIT 357 is self-propelled . . . rides on rubber at road travel speed . . . is easy to maneuver even in cramped yard conditions. Operated by ONE man . . . powered by ONE engine . . . swings in a 360° circle. Full vision cab gives complete visibility. Promotes Safety. Write for Catalog.

UNIT CRANE & SHOVEL CORP.
6607 W. Burnham Street, Milwaukee 14, Wis., U. S. A.

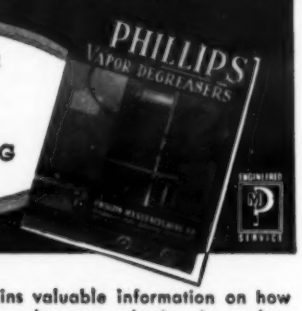
UNIT
CRANES • CLAMSHELLS • MAGNETS

▲ For more details circle NED-381 C3 on enclosed inquiry slip ▲

PHILLIPS

LEARN HOW VAPOR DEGREASING CAN CUT COSTS AND INCREASE YOUR PRODUCTION

SEND FOR YOUR FREE COPY OF PHILLIPS' NEW DEGREASING BULLETIN



HERE's a new bulletin that contains valuable information on how modern vapor degreasing speeds up production in modern factories by making metal cleaning operations faster and more economical. Listed below are some of the features of this new book:

WHAT DEGREASING IS — A full description of what vapor degreasing is and what it will accomplish for you.

HOW DEGREASERS WORK — A series of photographs and written description shows what happens in the degreasing process.

DEGREASER APPLICATIONS — Illustrates number of different applications of degreasers to solve metal cleaning problems in various industries.

COMPLETE LINE OF STANDARD DEGREASERS — Describes Phillips' full line of standard equipment, including batch type, combination, rotomatic, and conveyorized models.

SPECIALLY ENGINEERED UNITS — Tells about Phillips' service in designing special degreasing units for solving unique metal cleaning problems.

Phillips 3463 Touhy Avenue • Chicago 45, Illinois
MANUFACTURING COMPANY
Engineered Metal Cleaning Equipment

▲ For more details circle NED-382 C3 on enclosed inquiry slip ▲

How do your aluminum castings rate on this quality

Check List

Freedom from Pinhole Porosity?
Is a casting from every heat checked for pinhole porosity? That's the practice at Acme.

Close Dimensional Tolerances?
Are your aluminum sand castings up to 1/64" accurate on small sizes, 1/32" on large? They are at Acme.

Freedom from Hidden Defects?
Are you machining your castings only to discover hidden defects? Foundry practice at Acme makes use of X-ray.

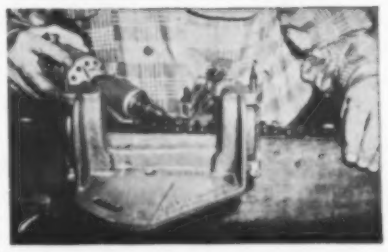
Accurate Mechanical Properties?
Are mechanical properties tested by an actual section from a casting? They are at Acme.

If you want to know more about Acme's remarkable facilities and Acme's 6-point laboratory control, write for latest bulletin. Requests for quotations given prompt attention.

Acme TRIPLE A Foundry Division
ALUMINUM ALLOYS, INC.
216 N. FINDLAY ST., DAYTON, OHIO

▲ For more details circle NED-383 C3 on enclosed inquiry slip ▲

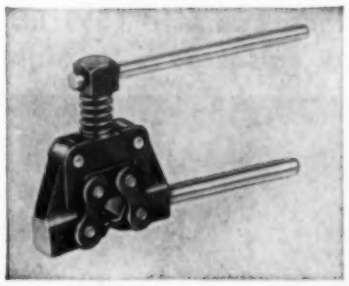
CHAIN SAW SHARPENER
portable unit sharpens all makes



All makes of chisel tooth chains for portable power chain saws can be sharpened to the correct horizontal and vertical angles by the Sharp-Master sharpener. It also cuts teeth to equal lengths, performing the complete operation in less than 20 minutes. Easy to operate and quick to set up, the tool mounts right on the chain saw guide bar. Sharp-Master has carbide burrs that will sharpen over 100 chains before requiring resharpening. Made by **Meakins-McKinnon, Inc.,** Dept. NED-1, Niagara St., Lockport, N. Y.

▲ For more details circle NED-384 C3 on enclosed inquiry slip ▲

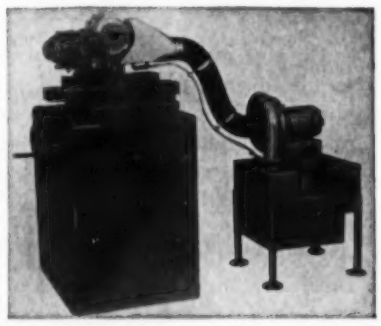
ROLLER CHAIN TOOL
disconnects any size of chain



Any pitch of roller chain from ¼ to ¾-in. can be disconnected readily with this CBT60 chain breaking tool. Malleable jaws grip chain securely. Roller link is inserted in tool, adjustable lever is turned, forcing the pressing tip to push the pin through the pin link plate. This process is repeated on pin at other end of the same pin link plate, and the chain is then disconnected. Made by **Boston Gear Works,** 69 Hayward St., Quincy 71, Mass.

▲ For more details circle NED-385 C3 on enclosed inquiry slip ▲

DUST COLLECTOR & COOLANT UNIT
applicable for diamond grinding



In addition to supplying an accurately controlled flow of coolant to the diamond grinding wheel or other machining operation, Vap-Air Exhaust unit also collects spray or dust created by operation. All excess coolant from wheel is sucked into hood. Unit meets Federal specifications for diamond wheel grinding. Diamond dust created by grinding operation is collected and can be reclaimed from the sludge. Made by **Shelboerg Mfg. Co.,** 27 Ridgeview Dr., Indianapolis 19, Ind.

▲ For more details circle NED-386 C3 on enclosed inquiry slip ▲

. . . WITH SPO AIR VIBRATORS

Don't let bins become bottlenecks! Keep materials flowing and production moving with SPO air vibrators. These powerful low-cost units assure steady, jam-free flow of powdered or granular materials from bins, hoppers and chutes . . . prevent clogging and packing.

SPO vibrators feature a special corrosion-proof bronze alloy cylinder liner which assures full-power starting, high-speed operation, low air consumption and maximum service life.

Write today for Bulletin 50.

1008-S1

SPO INCORPORATED
6475 GRAND DIVISION AVE. • CLEVELAND 25, OHIO

▲ For more details circle NED-387 C3 on enclosed inquiry slip ▲

WASHERS and STAMPINGS

Geared to Industry's Production Demands Since 1887

Over a period of 65 years, producing standard and special washers of all types for all industries, we have made up more than 25,000 sets of dies . . . used in the production of washers which are stocked in thousands of different sizes. On special orders we will make up dies to your specifications.

Let us quote on your requirements for washers and stampings . . . covering fabrication in any material and any finish . . . machined, heat-treated or surface ground, as may be specified.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.

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MONARCH makes the complete line of solid industrial tires

THE MONARCH RUBBER COMPANY
201 LINCOLN PARK • HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

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"the 'no-prep' vinyl primer"

- minimizes surface preparation
- dries hard in minutes
- goes under any type finish
- provides excellent adhesion
- inhibits rust formation

TYGORUST is a new and unique primer specifically developed to permit the use of TYGON and other vinyl based coatings on rusted ferrous metals. Its outstanding features include easy application — fast drying — high coverage — excellent adhesion to wet or dry rusted steel, wood, concrete, or previously painted surfaces — excellent adhesion for vinyl, nitrocellulose, alkyd, oleoresinous, or bituminous finishes—and, real resistance to rust formation.

359C

Write for details today — try TYGORUST tomorrow!

U. S. STONEWARE CO.
Akron 9, Ohio

For more details circle NED-390 C3 on enclosed inquiry slip

WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!

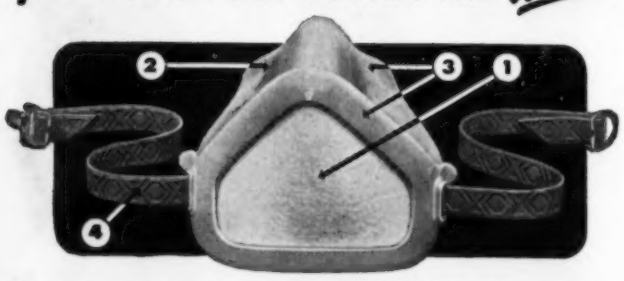
Save Money

OVER 9,000 ITEMS INCLUDING

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

For more details circle NED-391 C3 on enclosed inquiry slip

4 Reasons why FLEX-A-FOAM (and only FLEX-A-FOAM) provides Dust Protection your workers will welcome and Wear



1. Pure latex washable filter purifies the air of non-toxic nuisance dusts as small as 1/25000 of an inch — yet it's easier to breathe and talk through than an ordinary pocket handkerchief! Out-wears throw-away type filter as much as 100 to 1.

2. Perfectly contoured for self-adjusting fit to every size and shape of face—designed for wear with spectacles or goggles with perfect comfort.

3. Positive-locking frames of polyethelene plastic, so flexible and tough they're unbreakable in normal usage. Complete mask weighs only 1 ounce. Attractively styled to suit the most discriminating wearer.

4. Defiance non-skid, natural rubber head-band with adjustable hook-and-eye fasteners holds mask firm and comfortably snug without tension or hair-pulling.

FLEX-A-FOAM FILTER MASK

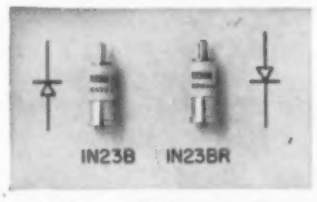
Sample $1.40 postpaid

Write for new descriptive folder

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

For more details circle NED-392 C3 on enclosed inquiry slip

MATCHED DIODES
for balanced microwave mixers



Developed for low noise circuitry, matched pairs of silicon diodes have one unit of reversed polarity. Identified as 1N23BMR, the matched crystals of the same polarity, when used in a balanced microwave mixer, greatly reduce the noise contribution of the local oscillator. A matched pair with one unit of reversed polarity simplifies both mechanical and electrical design of the mixer and IF input circuit. Both standard 1N23B pairs, the 1N23BM and the new 1N23BMR with one 1N23B paired with a selected 1N23BR are available, matched within narrow limits for conversion loss, RF and IF impedance. Pairs for other bands can be supplied. Made by **Microwave Associates, Inc.**, 22A Cummington St., Boston 15, Mass.

For more details circle NED-393 C3 on enclosed inquiry slip

NO-PUSHBEAM BULLDOZER
96 x 51-in. blade can bite 15½ in. below ground, raises 39½ in. high

A hydraulic, no-pushbeam, 96-in. wide blade integral with an Allis-Chalmers HD-15 crawler tractor comprises this 109-hp 15X excavating bulldozer which features highway width for transportation without special highway width permits. Entire front tractor frame and dozer attachment is supported by twin hydraulic cylinders which compensate for variations in track elevation and provide good traction in uneven surface conditions. Stabilizer bars connected to hydraulic pistons and running from track to moldboard absorb torsional strain and reduce horizontal forces on tractor frame.

Hinged radiator opens outward for access to front-mounted hydraulic control mechanism. Design enables exertion of great amount of tractor's weight and engine horsepower into down pressure for 15½-in. below ground blade bite. Blade raises 39½ in. above ground. With blade in either high or low position, tractor's low center of gravity adapts it for drawbar work without undue wear on front end truck bearings.

Main spring and spring pads have been removed for high clearance, and rear-end clearance can be increased by removal of draw bar. Blade weighs only 5366 lb. Oil reservoir and hydraulic pump are front mounted for quick, positive pressure and easy servicing. Made by **Baker Mfg. Co.**, 1001 N. Stanford Ave., Springfield, Ill.

For more details circle NED-394 C3 on enclosed inquiry slip

Production Goes Up

Costs Come Down

when you order Stanzoils® by PIONEER

Proper protection and comfortable fit go hand in glove with Stanzoils to boost your workers' efficiency and send your company's profits soaring! Work stoppage and injury claims decrease . . . medical expenses decline . . . employee relations improve and production increases—when you order the *right* liquid tight acid and oil resistant neoprene Stanzoil gloves for *each* job. Choice of 32 longer-lasting styles, weights, sizes, colors . . . write for PIONEER Stanzoil catalog today.

N-32 medium weight straight finger style neoprene glove. Non-slip grip surface. 10½" length.

Industrial Products Division

The PIONEER Rubber Company
234 TIFFIN ROAD • WILLARD, OHIO

STANZOIL PIONEER

Quality Gloves for 35 Years

For more details circle NED-395 C3 on enclosed inquiry slip

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line ...provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-396 C3 on enclosed inquiry slip

The NESTIER Expanded Metal BASKET

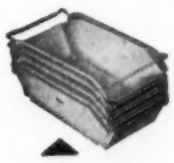
DOES EVERY SMALL PARTS HANDLING JOB!

from stockroom through machining and dipping to assembly and inspection

WITHOUT EVER CHANGING THE CONTAINER!

THERE'S NO RE-HANDLING OF SMALL PARTS when you use the NesTier Metal Basket!

In this scientifically designed NesTier unit, parts can be taken from the first machining operation, and moved swiftly through *all phases of production.* By eliminating the need for changing containers when dipping or degreasing, NesTier Baskets effect *tremendous savings of time and labor*—actually *pay for themselves* many times over.



IT NESTS
IT TIERS

Constructed with all basic NesTier features, the Basket serves perfectly as an all-purpose tote-box, usable from stockroom to loading dock. It can be transported by overhead and roller conveyors, on pallets and skids, or can be carried easily by hand. Requires minimum storage space, presents a neat, orderly appearance wherever tiered or nested.

In every way, the NesTier Basket streamlines small parts handling, cuts production costs.

The Basket is interchangeable with the standard sheet steel NesTier. Two standard sizes. Heavy-gauge steel, zinc plated.

MATERIALS HANDLING ENGINEERS — WRITE FOR FREE DESCRIPTIVE BULLETIN TODAY!

NESTIER®

THE CHAS. WM. DOEPKE MANUFACTURING CO., INC.
Metal Specialties Division
ROSSMOYNE, OHIO

For more details circle NED-397 C3 on enclosed inquiry slip

ANY RPM

Any rpm at your finger tips. Gives magic control to your machine. Increases output and quality. *Request Varidrive Bulletin.*

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Calif., or Milford, Conn.

U.S. VARIDRIVE MOTORS

▲ For more details circle **NED-398 C3** on enclosed inquiry slip ▲

The lowest costing lift truck you can buy, the Red Arrow features unusual ease of operation, speed and economy. Maintenance cost practically nil. Machined standardized parts and machined bolted frame . . . eliminate downtime. Pays for itself many times a year in time and manpower saved.
Send for Bulletin 252 Today.

LIFT TRUCKS INC., CINCINNATI 14, OHIO

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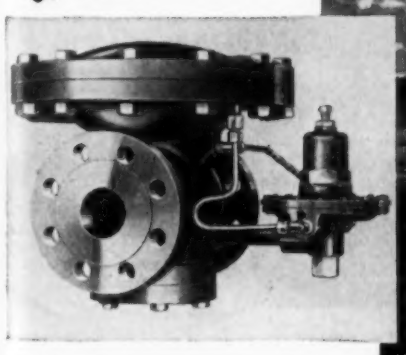
THE *Old Faithful* OF STEAM PRESSURE REDUCTION



FISHER® TYPE 92A
PILOT OPERATED CONTROL VALVE

Power engineers everywhere have ok'd the FISHER TYPE 92A for steam pressure control! It's an accurate, compact, flexible, sturdy controller, designed, built and proved to meet the **most exacting requirements** for steam service.

WRITE FOR BULLETIN C-3

SINGLE SEATED TIGHT CLOSURE

Two interchangeable pilot assemblies available for high or low pressure service.

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

▲ For more details circle **NED-400 C3** on enclosed inquiry slip ▲

MOBILE MELTING KETTLES
375 and 500-gal capacity models

Fast delivery of "hot stuff" in large quantities is afforded by Jumbo size Heet-Master asphalt melting kettles featuring four tandem arranged pneu-

matic tired wheels. Internal tube-heated kettles built for hard trailing anywhere truck can be driven are available in 375 and 500-gal capacities. Features include heat risers, double tube heating system for quick melting of contents, low loading height, low center of gravity, load equalizers, short turning radius, lockable rain covers and adjustable tow eye. Units can be equipped with power or hand spray attachments for road work. Made by **Aeroil Products Co.,** 25 Wesley St., South Hackensack, N. J.

▲ For more details circle **NED-401 C3** on enclosed inquiry slip ▲

RECORDING CAMERA
lightweight, automatic unit can record up to four pictures/second

Accessories available with the British designed Auto Camera Mark 3 adapts it for time-lapse recording, photomicrography, normal and stereo photomacrography, aircraft instrument and chemical experiment recording. Speeds as fast as four pictures per second, or at intervals from ¼-second to as long as desired are possible. Spring motor provides, with one winding, the exposure of 21 ft of 35-mm film held in cassettes. Both exposure and film transport functions are affected by single electrical pulse of either 12 or 24-v dc. Camera can also be controlled manually.

Five shutter speeds from 1/10 to 1/200 second, and time exposure are provided. Standard lens is of 36-mm focal length, f/3.5 in graduated focusing mount. Antivibration focusing mount for aircraft work is also available. Camera model Mark 3 A provides 200 1 x 1-in. pictures, while the Mark 3B provides 300 pictures, ¾ x 1 in. Dimensions are 8⅞ x 3⅜ x 4 in., weight, under 6 lb. Unit can be mounted from the front or at base. Electrical contact for external exposure indication or flash illumination is provided. Distributed by **J. A. Maurer, Inc.,** Photographic Instrumentation Div., 37-05 31st St., Long Island City 1, N. Y.

▲ For more details circle **NED-402 C3** on enclosed inquiry slip ▲

NEW DIAL THERMOMETERS

Important advantages are claimed for a new line of inexpensive Dial Thermometers.

The case is made of corrosion-resistant phenol plastic, fume, acid and moisture proof; lightweight, and will not warp or burn. The black of the case is the plastic itself; it cannot wear off. Arranged with bottom or back connection for wall or flush mounting at same price.

The dial is dull black finish with white lines and figures and white, wedge shape pointer. This combination eliminates glare and assures highest visibility in any light.

The dial is covered with plate glass, held in position by a brass retainer ring.

The system—The pointer is actuated by vapor pressure developed in the bulb when heated. Seven standard ranges are available, for temperatures from minus 20°F. to 350°F. Write for Catalog 1100-2. *Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.* *Advt. 603*

▲ For more details circle **NED-403 C3** on enclosed inquiry slip ▲

don't take our word for it!

Just try a **GRIPPER WOVEN WIRE SLING** in your own plant and see if you don't agree it's the most amazingly versatile MATERIALS HANDLING TOOL yet to hit the market!

Use your Gripper sling for—

LIFTING compact, heavy loads to and from delivery vehicles

MOVING long members into and out of storage racks

POSITIONING parts for machining or finishing

. . . or for any other routine or special sling problem . . . anywhere in the plant.

Gripper slings won't snarl or tangle, won't cut operator's hands with broken wires. They'll lift any load with ease and safety. Each sling can be used in basket or choke hitch.

WANT TO KNOW MORE? See your mill supply, safety equipment or materials handling dealer . . . or write for illustrated literature and data.

The Cambridge Wire Cloth Co.

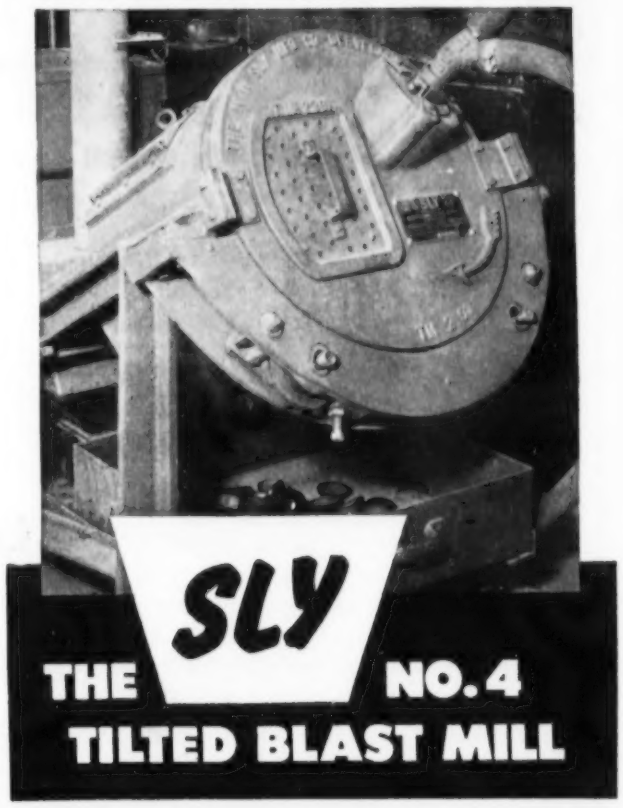
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

Department R
Cambridge 3, Maryland

DISTRIBUTORS—Write for open territory data!

▲ For more details circle **NED-404 C3** on enclosed inquiry slip ▲

BLASTCLEAN small Parts



Offers you Thorough, Quick, Low Cost Cleaning

THOROUGH CLEANING. Because of its tilted position and the rolling action of the barrel, with convex perforated bottom plate, all pieces are brought to the top frequently and receive *short range, powerful blasting.*

QUICK, TOO. Not only do the pieces receive a direct blast at their greatest depth but also get the effect of rebounding abrasive particles within the load. And this speeds cleaning.

LOW COST CLEANING. Very simple in design and heavy in construction, this Blast Mill serves for years and years with the very minimum of maintenance. Add to this its *quantity production* and the result is low cost cleaning.

WIDE RANGE OF APPLICATION

Non-Ferrous Castings—Put them in the mill, cores and all, thereby eliminating time for core removal.

Forgings and Stampings—An infinite variety is being cleaned by this mill for purposes of grinding, dipping, painting, etc.

Hardened Steel Parts—Twist drills, reamers, piston pins, taps and dies, small cut gears, etc., for quick removal of heat treat scale.

Ask for Bulletin No. 82.

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 2, OHIO
Branches in: New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo Cincinnati • St. Louis • Minneapolis • Birmingham • Los Angeles • Toronto

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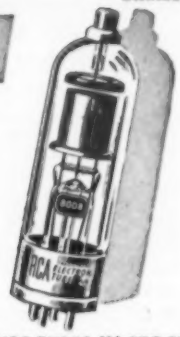
IT'S ALLIED FOR RCA

Authorized RCA Distributor

ELECTRON TUBES FOR INDUSTRY



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For more details circle NED-406 C3 on enclosed inquiry slip

stainless

Parts and Fasteners

CAMCAR COLD-FLOW

Camcar specialists have developed Cold-Flow techniques for working Stainless and other non-corrosive materials to give you the same prompt service supplied on standard materials. You can choose material specifications from Camcar's inventory of Stainless Steels to solve both design and delivery problems.

STANDARD Stainless Fasteners supplied from stock for prompt shipment. Monthly stock list mailed on request.

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When you need Stainless—or any fasteners or special parts
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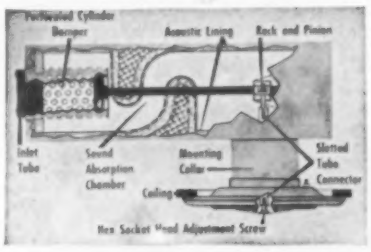
CAMCAR SCREW & MFG., CORP.
601 Eighteenth Avenue • Rockford, Illinois

"PRODUCTION-DESIGNED FOR YOUR ASSEMBLY LINE"

For more details circle NED-407 C3 on enclosed inquiry slip

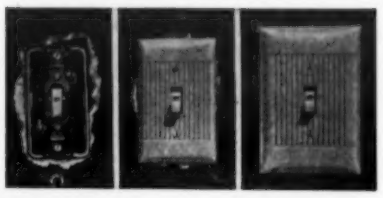
AIR DIFFUSER has perforated cylindrical damper



Kno-Draft type HPR-K high pressure air diffuser can be dampered from 1 to 4 in. water gage, static pressure, thereby permitting system balancing where volume requirements may vary 50 to 100 per cent from original design. This capacity to handle wide volume variations in different zones realizes savings in space and ductwork and provides a flexible distribution system. Unit consists of a perforated cylindrical damper, sound absorption chamber and circular diffuser. Calibrated damper valve is controlled from below. Neck sizes from 4 to 10 in., in capacities of 70 to 525 cfm, are offered. Made by **Connor Engineering Corp.**, 114 Shelter Rock Lane, Danbury, Conn.

For more details circle NED-408 C3 on enclosed inquiry slip

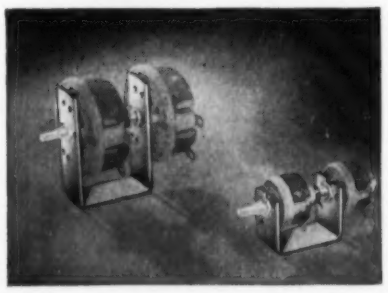
LARGE SWITCH PLATES cover damaged plaster next to box



When chipping or cracking of plaster or other wall surface adjacent to a switch or outlet box is too extensive to be covered by a standard size wall plate, it can be covered with Jumbo plates which measure 3½ x 5½ in. They match the company's standard line and are made in ivory and brown Plaskon thermosetting plastic for toggle switches and duplex receptacles. Made by **Sierra Electric & Mfg. Co.**, 550 E. 31st St., Los Angeles 11, Calif.

For more details circle NED-409 C3 on enclosed inquiry slip

RHEOSTAT COUPLING KITS enables mounting in tandem



Certain standard Ohmite rheostats can be mounted in tandem with two rheostat coupling kits now available. Formerly tandem units were made to order, but with the kits they can be made from stock rheostats. Each kit consists of a steel U-frame, mica washer, coupling, Allen wrench and assembly instructions. Large frame is for use with model G, K or L rheostats, while small frame is for use with model H or J units. Made by **Ohmite Mfg. Co.**, 4843 W. Flournoy St., Chicago 44, Ill.

For more details circle NED-410 C3 on enclosed inquiry slip

GO "AMERICAN" FOR CIRCULAR WELDED PRODUCTS

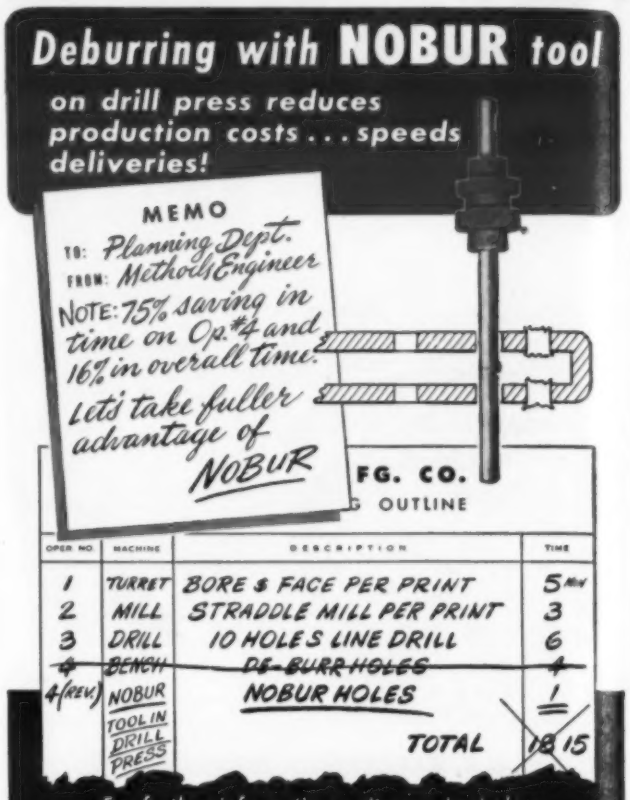
We make rings, bands, components and assemblies by either fusion or resistance welding of ferrous or non-ferrous metals. We believe that our quality is second to none and we know our products are reasonably priced. Many "Blue Chip" companies are our customers. Their products range from fractional horse-power motor shells to jet engine components.

SEND FOR YOUR COPY OF OUR 20 PAGE ILLUSTRATED CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
WARREN, OHIO

For more details circle NED-411 C3 on enclosed inquiry slip

Deburring with NOBUR tool on drill press reduces production costs . . . speeds deliveries!



For further information, write or wire today
NOBUR MANUFACTURING COMPANY
717 NORTH VICTORY BLVD. • BURBANK, CALIFORNIA

For more details circle NED-412 C3 on enclosed inquiry slip

HOW TO SATISFY A CUSTOMER

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Pacesetters in Plastic Packaging
514 South Ave., Garwood, New Jersey

For more details circle NED-413 C3 on enclosed inquiry slip

Another FLASH-O-LENS at work ...checking soundness of welds at INTERNATIONAL HARVESTER

By *lighting* and *magnifying* welded parts with FLASH-O-LENS, International Harvester Company's Memphis Plant guards against the most minute cracks in the welds.

FLASH-O-LENS offers a quick, simple way of detecting defects—of maintaining product quality. Built-in bulb brightly illuminates the inspection area—accurately ground lenses give sharp, detailed enlargement.

Battery and plug-in models from $10.65. Write for free literature on applications, types, prices.

E. W. PIKE & COMPANY
492 NORTH AVENUE ELIZABETH 3, N. J.

For more details circle NED-414 C3 on enclosed inquiry slip

Maintenance Worries End

WHEN REPLACED PARTS ARE POLYPENCO *Nylon*

ROD
STRIP
TUBING

. . . it's tougher, lasts longer, resists abrasion, permits closer tolerances—can be speedily machined!

Next time worn or damaged parts must be replaced, make them economically in your own plant from standard *Polypenco Nylon* rod, strip or tubing stock. It's a tough material with many unique advantages that assure the top performance you want. Let us show you how easily you can produce replacement parts by using the proper *Polypenco Nylon* stock . . . or have us fabricate them for you to your own specifications.

Write for Latest Bulletin on . . .

IDEAL MATERIAL FOR Gears, Bushings, Valve Seats, Heat Insulators, Gaskets, Bearings, Rollers, Coil Forms, etc.

Polypenco® NYLON

The POLYMER CORPORATION of Pennsylvania
Reading, Penna.

▲ For more details circle NED-415 C3 on enclosed inquiry slip ▲

HANDLE *More* FOR *Less!*

WITH BELT PORTABLE CONVEYORS

MOVE BAGS, BOXES, BULK *Quicker, Cheaper!*

MODEL R VERSAVEYOR BAG AND BOX HANDLER

Overall lengths 13, 15, 17 or 19 ft. Bed is 18 in. wide. Can be operated with or without either or both undercarriages. Belt speed 80 f.p.m. Aluminum-alloy frame. 300 lb. distributed load. 150 lb. unit load.

NEW ACCESSORIES

Gravity skate-wheel feeder and nose-over section, power belt, feeder and nose-over sections, adjustable guard rails, support stands for stationary floor-to-floor applications and gravity conveyor attachments now available.

MODEL S HANDY-HANDLER BULK CONVEYOR

Standard 16-ft. length (4-ft. extension section also available). Special lengths on request. Tough, aluminum-alloy frame. 16-ft. unit weighs 97 lb. without power unit. Can be used with or without dolly.

MODEL U HANDY-HANDLER PARTS CONVEYOR

Lengths 6, 8, or 10 ft. Distributed load, 100 lb. 25 lb. maximum unit load. Chain speed 50 f.p.m.

Put thrift in your every material shift with easy-to-use lightweight, aluminum Belt conveyors. Cut corners and costs on scoop-shovel jobs, stacking and storing, loading and unloading. Write today for literature.

THE BELT CORPORATION
7403 Stahl Road, Orient, Ohio

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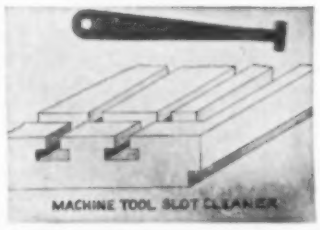
T-SLOT CLEANER
for use on machine tools



Offered free, this machine tool T-slot or planer slot cleaner is made of ⅛-in. cold rolled strip steel and is rustproofed. Request for it should be made on company letterhead to **Dayton Rogers Mfg. Co.**, 2822 Thirteenth Ave. S., Minneapolis 7, Minn.

▲ For more details circle NED-417 C3 on enclosed inquiry slip ▲

SUBMINIATURE RELAY
hermetically sealed six-pole type

Type 26A18 subminiature hermetically-sealed direct current relay meets or exceeds requirements of military specification MIL-R-5757. Of the six-pole double throw type, it is nitrogen filled at a pressure of one atmosphere. The compact unit is actuated by a rotary motor which features shock resistance and high torque factor to weight and size ratio. Contact mechanism is also shock and vibration resistant. Contact assembly is conservatively rated at 3 amp resistive load, 1.5 amp inductive load and 12 amp overload at 26.5 v dc. Weight is 3.1 oz and size is 1 9/16 x 1 in. Made by **Filtors, Inc.**, Electroquipt Controls Div., 30 Sagamore Hill Dr., Port Washington, N. Y.

▲ For more details circle NED-418 C3 on enclosed inquiry slip ▲

FIRE DETECTOR
sounds alarm at abnormal heat rise

Abnormal heat rise in factories, warehouses or institutions causes this Sentinel of Safety fire detector to sound a warning signal. It can be set to activate at any temperature up to 225° F. Detector automatically discriminates between normal and abnormal heat rise and resets automatically after activation. Trouble buzzer sounds in event of any break or short circuit in the system. Unit, except for small metal components, is molded from nonburning, noncorrosive Plaskon plastic and is approved by Fire Underwriters. Made by **Sentinel of Safety, Inc.**, 115 N. La Brea Ave., Los Angeles 36, Calif.

▲ For more details circle NED-419 C3 on enclosed inquiry slip ▲

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
420 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

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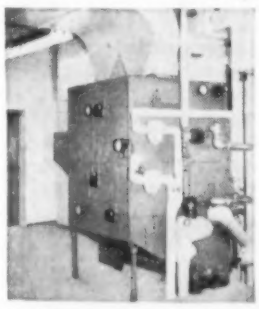
Control Atmospheric Conditions with Precision

•

Control of atmospheric conditions for tests and experiments, maintenance of standard conditions while working with hygroscopic materials, prevention of moisture damage to instruments or materials, improved drying processes . . . all are provided more easily and reliably with this new Niagara "Controlled Humidity" Method.

The equipment is simple, easily maintained and gives trustworthy, automatic operation. A liquid absorbent, "Hygrol", removes the moisture from the air directly so that refrigeration is needed only for sensible heat removal, saving equipment and operating expense.

Units provide capacities ranging from 1000 c. f. m. to 20,000 c. f. m. and require less space than conventional apparatus. Conditions are completely controlled at will in the temperature range from 34°F. to 140°F. and below 32°F. if required.



Write for Bulletin No. 112, address:

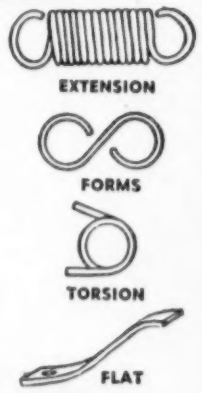
Niagara Blower Company, Dept. ED, 405 Lexington Ave., New York 17, N. Y.

▲ For more details circle NED-421 C3 on enclosed inquiry slip ▲

QUALITY CONSCIOUS SPRING BUYERS CHOOSE

PARAGON SPRINGS

Springs from Paragon are good springs . . . because of our complete control during manufacture. Our customers know that even commercial springs are better from Paragon . . . at no extra cost. Whatever your requirements . . . Precision or Commercial . . . your orders and inquiries receive expert individual attention.



SEND SPECS FOR QUOTATION

Write for STOCK SPRING DATA SHEETS giving complete specs, loading and design information.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

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Floors reinforced with **HEXTEEL® or FLOORSTEEL® LAST 25 YEARS!**

No personal injuries, no spillage from trucks—due to defects in floors—when you reinforce with *Klemp's* patented floor armors! Even in 1978, there will be no ruts, pot-holes, cracks or other dangerous disintegration! Use *Klemp's* FREE engineering service—or write TODAY for "Instructions for Laying *Klemp* HEXTEEL and FLOORSTEEL." No obligation.

KLEMP
We Tread the World with Safety

KLEMP METAL GRATING CORPORATION
1371 North Branch Street • Chicago 22, Illinois

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Can be opened or closed by hand, no tools needed. Attach to structure or pre-assemble to harness prior to installation. T-shaped tongue and slot prevent accidental opening.

Assembles to pre-latched position by hand; to lock compress with standard pliers held parallel to hose in tight locations. Easily removed, it can be reused indefinitely.

These SPEED NUT® Brand Fasteners are engineered to reduce production costs, eliminate assembly operations, cut materials handling and do a better fastening job! Developed for military aircraft, they now save production costs for many product lines. Your Tinnerman representative can help determine the right fastener for your fastening problem—call him or write direct to:

TINNERMAN PRODUCTS, INC.
Dept. 12, Box 6688, Cleveland 1, Ohio

▲ For more details circle **NED-426 C3** on enclosed inquiry slip ▲

. . . you can read any surface temperature in your plant . . . accurately and easily . . . with the Alnor Portable Pyrocon.

Compact in size, complete in precision design and workmanship, this rugged instrument assures the highest standards of speed, accuracy and dependability. You can take temperature readings on materials in process, the finished product or the heated equipment itself—in as few as 3 seconds!

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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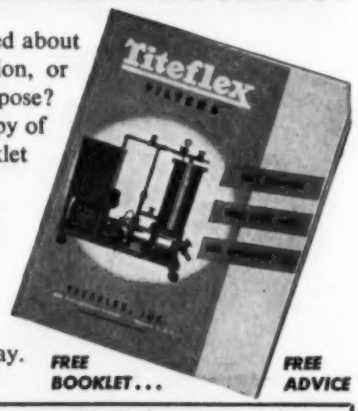
REDUCE FILTRATION TROUBLES!

Need a filter but worried about filtration costs, operation, or suitability for your purpose? Then get your Free Copy of the Titeflex® Filter Booklet right away.

Ask for a Titeflex Engineer to set you straight on costs and equipment for your special needs. No obligation. Mail coupon today.



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Titeflex

Businesses served by Titeflex Filters include . . .
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Let Our Family of Products Help Yours

MAIL COUPON TODAY

TITEFLEX, INC.
507 Frelinghuysen Ave., Newark 5, N. J.

☐ Please send me a copy of your Free Booklet about Titeflex Filters.

☐ We need the advice of a Titeflex Filtration Engineer . . . without obligation on our part.

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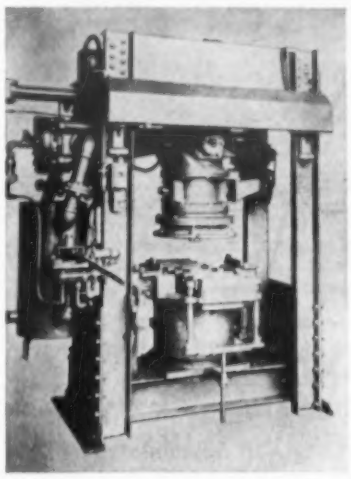
TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE____

▲ For more details circle **NED-428 C3** on enclosed inquiry slip ▲

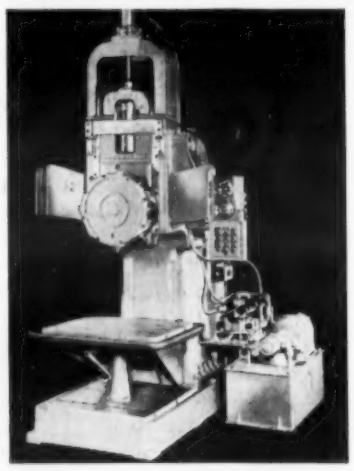
CORE BLOWER
features high speed production



Capable of blowing and drawing eight cores in a box with a 5½-second machine cycle is the Demmler 103 core blower. It has an automatic cycle control that uses a hydraulically controlled air timer for simplified operation. The timer allows the user to operate an adjacent roll-over while the machine is going through its infinitely controllable blowing cycle. Stationary magazine on the machine assures perfect alignment of the core box at all times. Core box handling devices can be installed without difficulty. A large throat opening permits smooth flow of sand from supply hopper. Made by **Wm. Demmler & Brothers,** Dept. E-1, Kewanee, Ill.

▲ For more details circle **NED-429 C3** on enclosed inquiry slip ▲

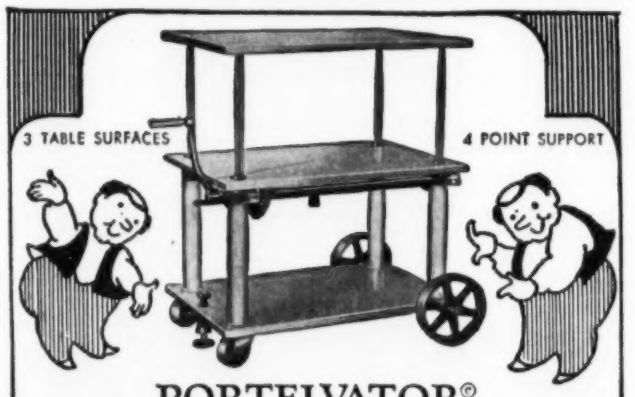
DRILLING-TAPPING MACHINE
suitable for other machining also and has 1½-in. hole capacity



Rigidity of design, precision operation and flexibility are features of Burgmaster model 3-BH eight-spindle automatic hydraulic drilling and tapping machine. It can also be used effectively with complex forming tools for inside or outside diameter turning, threading, plunge cutting, counterboring, spot facing and second operations. Capacity of machine is 1½-in. hole in mild steel. It has 12-in. spindle and head travel, 19-in. table clearance, twelve preselective spindle speeds from 167 to 1765 rpm, infinitely variable spindle speeds, automatic cycling and pushbutton controls.

Driven by 10-hp 2-speed U.S. motor, machine uses Vickers hydraulic power unit, Allen-Bradley electric controls, Warner electric clutch, Spicer universal joints, Timken bearings, Trostel or Perfect oil seals and Ruthman Gusher pump. Machine is adaptable for short, intermediate or long runs. Spindle runout is held to within 0.002-in. on a 24-in. diameter circle. Made by **Burg Tool Mfg. Co.,** Dept. NE, 3743 Durango Ave., Los Angeles 34, Calif.

▲ For more details circle **NED-430 C3** on enclosed inquiry slip ▲



PORTELVATOR®
(THE HANDY HAMILTON PORTABLE ELEVATING TABLE)
LIFTS — LOWERS — LEVELS
TRANSPORTS

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Eliminates the need for extra hands, extra trips.

STANDARD MODEL CAPACITIES TO 5000 POUNDS

SAFETY of OPERATION is inherent in the **PORTELVATOR** mechanical lift principle, which transmits power through worm, worm gear, and screw.

TAKE TIME TO LEARN THE DIFFERENCE
WRITE FOR BULLETIN P-508

THE *Hamilton* TOOL COMPANY
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

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PERMANENTLY LUBRICATED IDLERS TESTED AND PROVED BY EXPERIENCE

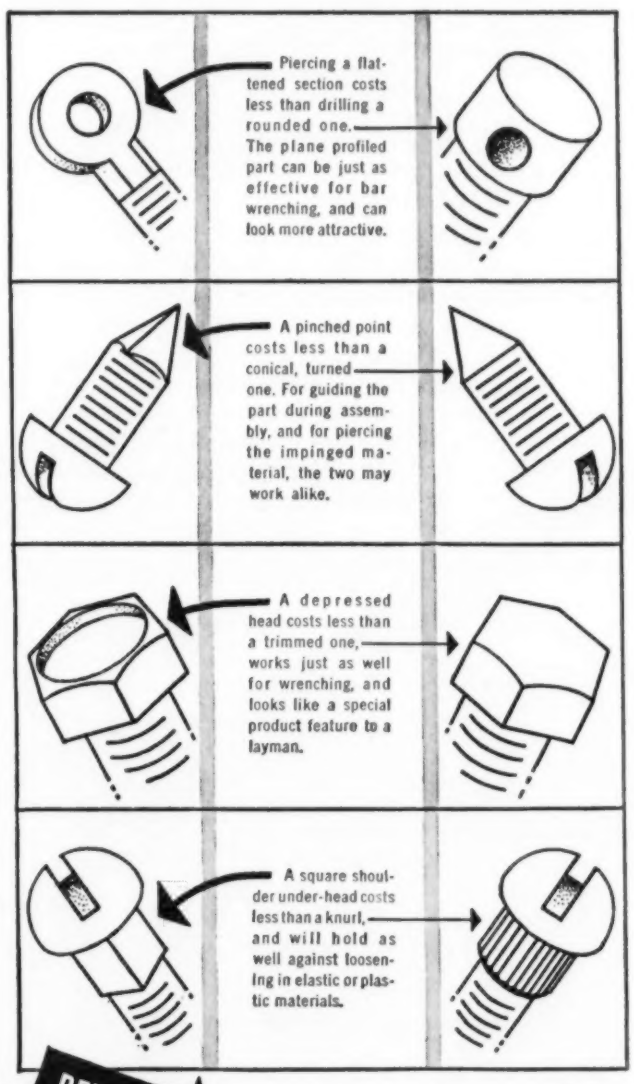
We originated the first entirely successful permanently lubricated idler for Sectional Belt Conveyor Systems. Ours is the only life-time factory-lubricated idler which has been tested and proved by years of satisfactory use. TRANSALL idler bearings are factory-sealed, leak-proof. Result: No grease contamination of product, longer belt life, lower maintenance costs, low friction factor, smaller diameter rolls, savings in horsepower. To "get a load off your mind", write TRANSALL, INC., 120 N. 11th Street, Birmingham, Alabama.

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

▲ For more details circle **NED-432 C3** on enclosed inquiry slip ▲

HOW TO
SQUEEZE PENNIES
OUT OF
UPSET SPECIALS COSTS

Specially designed upset products are solving thousands of problems. Dozens of design pointers on them are yours for the asking. Send us your sketches, prints, finished products for suggestions.



REPRINTS *of this chart are available on request for use in drafting and purchasing departments.*

QUALITY PROMCO BRAND

MACHINE SCREWS AND SPECIAL FASTENERS ARE OUR BUSINESS

WRITE FOR OUR CATALOG

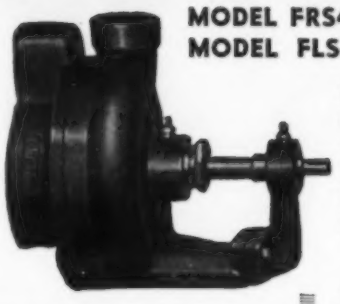
THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.

▲ For more details circle **NED-433 C3** on enclosed inquiry slip ▲

"FULFLO" TRADE MARK REG. U.S. PAT. OFF.

MAKE SURE YOUR COOLANTS HIT THE RIGHT SPOT TO KEEP TOOLS COOL

CENTRIFUGAL COOLANT PUMPS



MODEL FRS4 Right Rotation
MODEL FLS4 Left Rotation

Direct connection; 1800 to 2400 rpm; 35 gal. at 1725 rpm; 20 ft head, also with pulley for belt drive, if desired.

Ask the FULFLO engineers what type will do your job best.

WHETHER you need a drop or two at a time or a constant stream, FULFLO PUMPS pump and circulate the coolant *just where* and *when* it will do the most good.

Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

FULFLO THE FULFLO SPECIALTIES CO. Inc.
BLANCHESTER, OHIO

For more details circle NED-434 C3 on enclosed inquiry slip

standardize on standard

HALLOWELL SOLID STEEL COLLARS

Buy standardized, precision-made HALLOWELL Steel Collars from your distributor's stocks. You'll save time and money by picking up the telephone and placing your order. Deliveries are prompt.

42 stock sizes—for shafts from 3/16" to 3" diameter, inclusive—all positively positioned on the shafts by UNBRAKO Self-Locking Socket Set Screws, the screws that won't work loose.

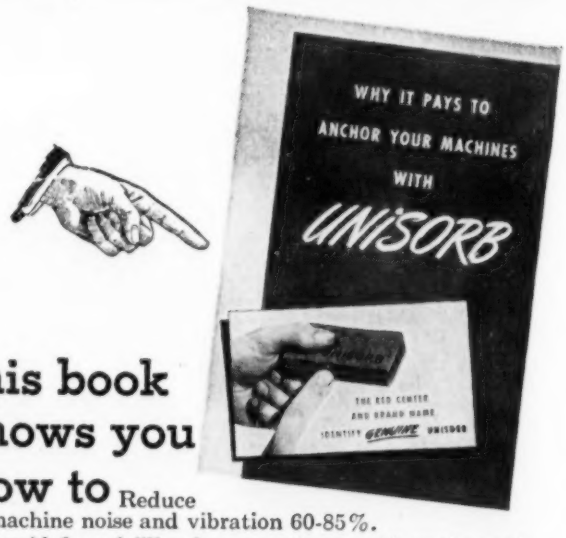
Write for literature, and the name and address of your nearest HALLOWELL industrial distributor. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL POWER TRANSMISSION DIVISION

SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-435 C3 on enclosed inquiry slip



this book shows you how to Reduce machine noise and vibration 60-85%.

Avoid floor drilling by mounting machines the modern way, without bolts or lag screws.

Reduce maintenance costs by eliminating transmitted vibration which damages machines, floors and buildings.

Save time and money when installing new machinery or repositioning present machinery.

Write today for your free copy of "Why It Pays To Anchor Your Machines With UNISORB."

THE FELTERS COMPANY
224 South Street, Boston 11, Massachusetts

UNISORB® MOUNTINGS are used with our special adhesive. UNISORB is also available precoated with adhesive, for use with machines that do not require shimming.

For more details circle NED-436 C3 on enclosed inquiry slip

PORTABLE ELECTRIC OVEN for baking, drying and preheating

Eight compartments of this model PL 2A portable electric oven allow for separation of different sizes or types of products which must be dried, baked or preheated. It is also suitable for moisture stabilization and storage of low-hydrogen, stainless steel, hardenable steel and other welding electrodes. Expanded metal shelves divide 28½-in. wide, 24-in. deep and 20½-in. high interior into eight compartments. Other features are contour-formed wrinkle-enamel-finished heavy-gage steel exterior; asbestos Aircell insulation; and selection of outside reading thermometer, timer, pilot light to indicate when heating element is on, oven stand and thermostatic control. Made by **Grieve-Hendry Co.**, 1815A W. Lake St., Chicago 12, Ill.

For more details circle NED-437 C3 on enclosed inquiry slip

TOWING TRACTOR rated at 12,000 lb drawbar pull features fluid coupling, low design

Heavy industrial requirements are met by this Clarktor-120 towing tractor which has drawbar rating of 12,000 lb and is powered by 6-cylinder 16A Chrysler gasoline engine which develops 114 hp at 3200 rpm. Fluid coupling, Clark axle design and low silhouette are among features. Tractor has four speeds forward, with maximum of 16.3 mph, and one reverse of 2.17 mph. Pivoted front axle allows turning with 127-in. radius.

Tractor has low headroom and affords maximum visibility when handling bulky drawbar loads. Adjustable cushion driver's seat; electric horn, headlights and tail light are standard. Instruments are mounted on panel directly in front of driver. Truck-type steering gear and hydraulic brakes with 280 sq in. braking area are standard. Twin gas tanks afford total capacity of 25 gal, enabling operation for 8 to 10 hours without refueling.

Steel ribbed reinforced hinged hood also serves as worker platform in maintenance. A Holland automatic coupler is standard equipment. A winch containing 300 ft of ½-in. cable with a No. 5 hook is optional. Its drawbar capacity is 10,000 lb. An all-weather steel cab, hot water heater and defroster are also available. Made by **Clark Equipment Co.**, Industrial Truck Div., 1952 Arze St., Battle Creek, Mich.

For more details circle NED-438 C3 on enclosed inquiry slip

TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

ATTENTION JOBBERS AND DEALERS . . . Profitable opportunities for aggressive distributors. Write for details.

Send for free descriptive circular

MANUFACTURED BY
TRI-SAW CORPORATION
6611 CLAYTON ROAD • ST. LOUIS 17, MISSOURI

For more details circle NED-439 C3 on enclosed inquiry slip

ALLIS-CHALMERS Dry-Type TRANSFORMERS

Boost Low Voltages

Install an Allis-Chalmers dry-type transformer right next to the load it serves — on overhead trusses, walls, platforms, or directly on the machine. You'll get higher motor, lighting, and thermal efficiency, resulting in economical utilization of power.

Installation is easy because knockouts are provided for connecting conduits directly to transformer case. System cables are connected to transformer terminals in roomy compartments. No vaults or expensive enclosures are needed. Install A-C dry-type transformers and forget them except for periodic inspections. No insulating liquids to mess with; no gauges or gaskets to fuss with.

Call your nearest A-C district office for full information or write Allis-Chalmers, Milwaukee 1, Wisconsin.

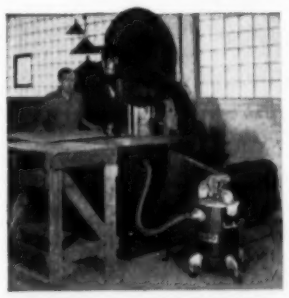
A-3958

ALLIS-CHALMERS A-C

For more details circle NED-440 C3 on enclosed inquiry slip

TORNADO® GETS AROUND...

...Wherever you need FASTER CLEANING



Tornado attached to band saw collects all fibre dust. Hours saved in sweeping time.

Same Tornado attached to circular saw accumulates all sawdust as it occurs. No sweeping here, either.

The Iten Fibre Co., Chicago, serves industry with fibre sheets, rods, tubes and washers. In their fabricating process, fibre dust is a big problem. That is . . . it was until they turned to Tornado.

Now they use the powerful Tornado industrial vacuum cleaner for floor sweeping — and with adaptors to collect dust right from the machines.

If your cleaning problems include pickup of dust, metal chips, oil, water or scrubbing solutions — Tornado is your answer.

Let Us Tell You More About TORNADO Cleaning Write For Bulletin 607

BREUER ELECTRIC MFG. CO.
5116 N. RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

For more details circle NED-441 C3 on enclosed inquiry slip

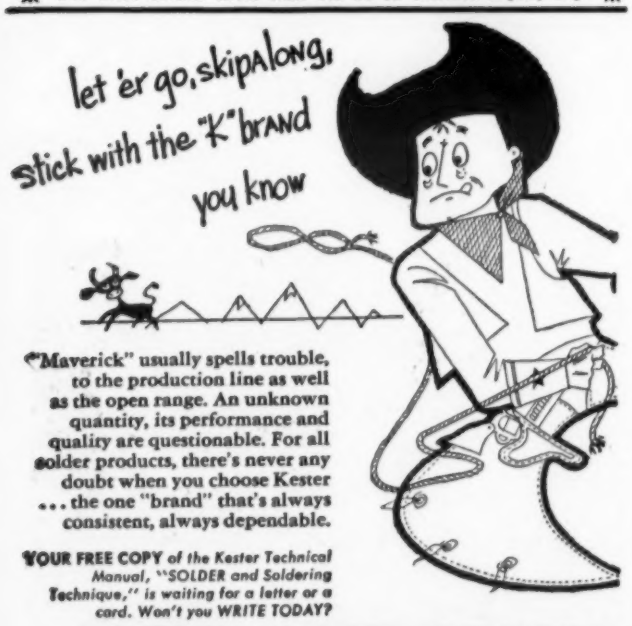
If the equipment you design calls for 29.9" of vacuum or 25 psi pressure

Wings in this Leiman Pump take up their own wear, year after year, and always maintain contact with cylinder wall. *See our Listing in Sweet's Product Design File*

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of Industry since 1889.

LEIMAN BROS., INC.
167 Christie Street, Newark 5, N. J.

▲ For more details circle **NED-442 C3** on enclosed inquiry slip ▲



"Maverick" usually spells trouble, to the production line as well as the open range. An unknown quantity, its performance and quality are questionable. For all solder products, there's never any doubt when you choose Kester ... the one "brand" that's always consistent, always dependable.

YOUR FREE COPY *of the Kester Technical Manual, "SOLDER and Soldering Technique," is waiting for a letter or a card. Won't you WRITE TODAY?*

KESTER
SOLDER COMPANY
4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

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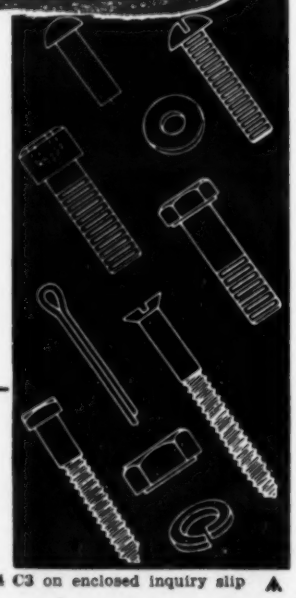
STOP CORROSION with HARPER

EVERLASTING FASTENINGS BY THE DOZENS OR BY THE MILLIONS

If you use fastenings of brass, bronze, copper, monel, aluminum or any stainless steel, you can get what you want from Harper. Over 7,000 items stocked—all backed by Harper's advanced metallurgists and skilled engineers. See your Harper Distributor.



HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8212 Lehigh Avenue
Morton Grove, Illinois
Please send me Harper Catalog.

Name.....
Address.....
City.....*State*.....

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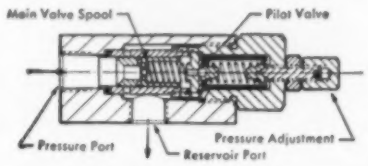
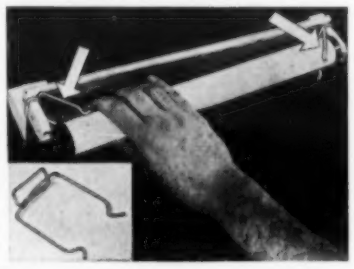
RELIEF VALVES prevent excessive pressure loading

Maintenance of constant pressure and prevention of excessive pressure loading in hydraulic systems are functions of line of high capacity relief valves. They retain the constant pressure characteristics of pilot type relief valves and have sliding spool in main valve to provide increased capacity to handle any reasonable flow. Relief pressure is constant and not noticeably affected by flow, temperature or oil viscosity. Valves are suitable for oil or gasoline, with relief pressure adjustable from 50 to 1000 psi or 500 to 3000 psi. Sizes are available for ¼ and ⅜-in. pipe. Made by **Fluid Controls, Inc.,** Dept. B, 1284 N. Center St., Mentor, O.



▲ For more details circle **NED-445 C3** on enclosed inquiry slip ▲

FLUORESCENT LAMP GUARD holds tubes despite vibration



Made of spring wire and U-shaped, this slip-on guard prevents fluorescent lamps from falling out of their sockets, despite vibration or spreading of fixtures. Sides of the guard are 2¼ in. long and serve to guide the lamp into the socket. Installation is by slipping over the sockets at each end of fixture. Made by **Gets-A-Lite Co.,** 3865 N. Milwaukee Ave., Chicago 41, Ill.

▲ For more details circle **NED-446 C3** on enclosed inquiry slip ▲

PULSE FORMING NETWORK miniature unit is sealed

Small size, plus two 1¼-in. No. 22 tinned solid copper leads, simplify mounting of this PFN 7030B pulse forming network. It has an impedance of 1050 ohms and forms a 0.15 microsecond pulse when used in a suitable circuit. It is also available with pulse widths from 0.02 to 20 microseconds. Operating temperature range is from −65° C to 105° C. Resin potting compound assures resistance to corrosion and moisture and improves electrical and physical characteristics. Units are being employed on radar, missile and computer applications. Made by **PCA Electronics, Inc.,** 6368 De Longpre Ave., Hollywood 28, Calif.

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SLASH YOUR COSTS OF THREADING PIPE!

OSTER

HIGH SPEED PIPE MACHINES

Reduce your costs of threading and cutting pipe with Oster "RAPIDUCTION" machines. Model No. 6-A covers the 1" to 6" pipe range and the 1" to 4" bolt range. Model No. 8 has a standard pipe range of 2½" to 8".

A single, quick-opening, adjustable die-head, with one set of holders, covers the entire range of each machine. Write for free catalog bulletin "LIST NO. 9-C" which explains Oster "RAPIDUCTION" features.

THE OSTER MFG. CO.
2066 EAST 61st STREET
CLEVELAND 3, OHIO

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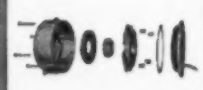
DO THESE NEW
Reuland motors
FIT INTO YOUR PICTURE?

(cut-away view)

FLUID-SHAFT MOTOR — Provides smooth acceleration of heavy loads. More compact than separate motor and fluid coupling. *Perfect alignment!* Thousands in use on cranes, mixers, centrifugals, etc.

FLUID-SHAFT MOTOREDUCER — This Fluid-Shaft motor and gear reducer combination converts the motor's conventional high speed into a slow speed, smooth starting, compact unit. Ideal for car pullers, conveyers, dryers, etc.



MAGNETIC BRAKE — The only brake that permits the use of TWO output shafts per motor. *When desired the motor shaft can be extended right through!* Only 6 major parts...no levers or linkage... self adjusting... half usual length!

Write for new engineering folder on these and other *exclusive* Reuland Products... *industrial units designed to fill the needs of the nation's leading equipment manufacturers!*

REULAND ELECTRIC COMPANY
ALHAMBRA, CALIF.
Representatives in all principal cities
FIRST IN QUALITY... FIRST IN DESIGN

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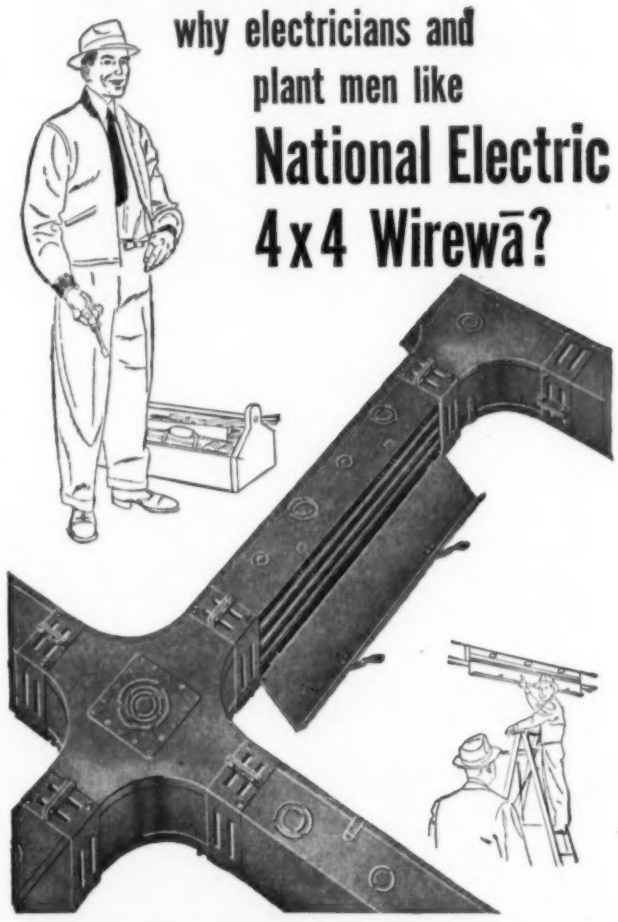
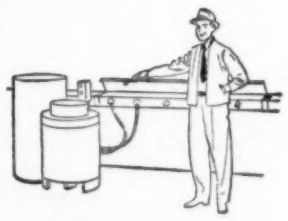
Do You Know why electricians and plant men like National Electric 4x4 Wirewā?



"Our wiring system has to be changed, tapped, spliced frequently. No other wiring system gives us the *accessibility* and the *steel protection* of NE Wirewā."

"I can assemble sections of NE Wirewā on the floor where it's easy to work. Then it's no job to lift into place—either directly to the wall or suspended from the ceiling."

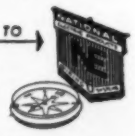


"Where taps or splices are to be made inside the wireway, accessible *hinged covers* must be employed as required by Art. 362, Par. 3625 of the N.E. Code. National Electric 4x4 Wirewā meets this vital requirement."

"Wirewā is roomy—16 sq. in. Eliminates numerous conduit runs. And it's economical, too. Easy to reroute and extend—100% salvable."

Listed by Underwriters' Laboratories, Inc.
Write for details

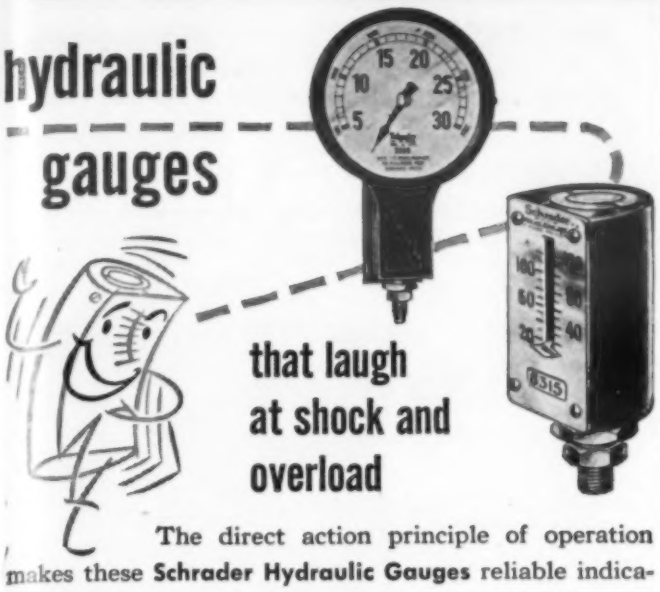
EVERYTHING IN WIRING POINTS TO



National Electric Products
PITTSBURGH, PA.
3 Plants • 7 Warehouses • 42 Sales Offices

▲ For more details circle **NED-450 C3** on enclosed inquiry slip ▲

hydraulic gauges



that laugh at shock and overload

The direct action principle of operation makes these **Schrader Hydraulic Gauges** reliable indicators of pressure, even under shock and overload.

Easily installed, these gauges are also easy to maintain.

The Schrader catalog describes the full line of Schrader Hydraulic Pressure Gauges, as well as Schrader air line equipment. A copy is yours for the asking. Write for it today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave., Dept. E-31 Brooklyn 38, N. Y.

For more details circle **NED-451 C3** on enclosed inquiry slip

SPEED PRODUCTION • CUT COSTS ELIMINATE SHRINKAGE...

Resistance Spot Welding & Soldering Machines

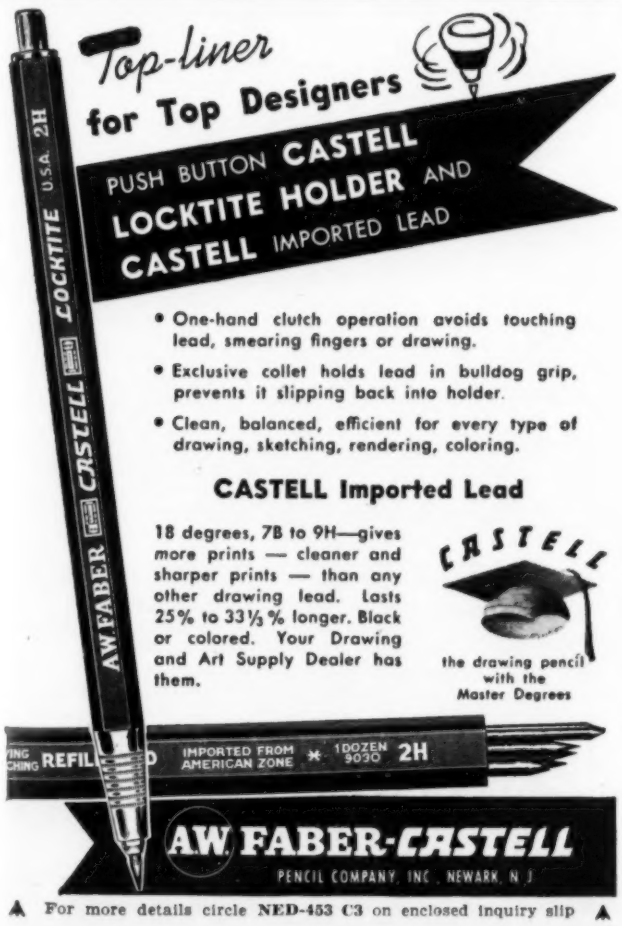
Models 1000 WV, 2000 WV & 5000 WV—AC only

For hard soldering, soft soldering and spot welding precious and dissimilar metals. Spot welds steel parts up to 3/16 of an inch thick; welds brass up to .080"; solders brass up to 1/4 of an inch. Has myriad applications in small metal parts production.

Write for catalog of complete line.

JOYAL PRODUCTS, INC. 56A BELMONT AVENUE NEWARK 3, N. J.

For more details circle **NED-452 C3** on enclosed inquiry slip



- One-hand clutch operation avoids touching lead, smearing fingers or drawing.
- Exclusive collet holds lead in bulldog grip, prevents it slipping back into holder.
- Clean, balanced, efficient for every type of drawing, sketching, rendering, coloring.

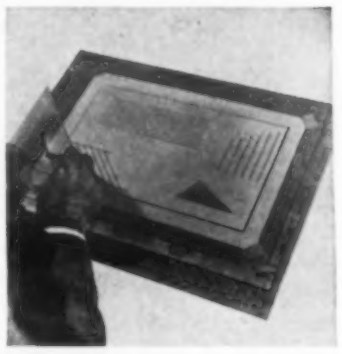
CASTELL Imported Lead

18 degrees, 7B to 9H—gives more prints — cleaner and sharper prints — than any other drawing lead. Lasts 25% to 33⅓% longer. Black or colored. Your Drawing and Art Supply Dealer has them.

CASTELL
the drawing pencil with the Master Degrees

For more details circle **NED-453 C3** on enclosed inquiry slip

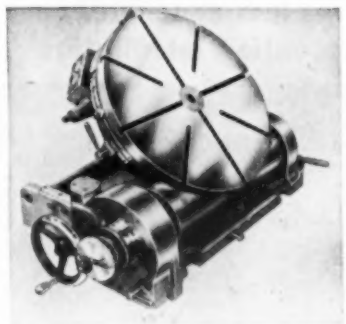
PARALLELING DRAFTING BOARD
requires only pencil and triangle



Rubber grips on back of this improved Par-L-L-er drafting board hold board on any desk in horizontal or angular position without slipping. A double finger-hole has been provided at bottom of board for carrying to the job. Available sizes are 12 x 13 in., 15 x 19 in. and 21 x 25 in. Ruler, held to the board by simple cord arrangement, moves up or down in perfect parallels to its own length, and plastic indicator measures the movement in fractions of an inch. For straight line, parallel and angular drawings only pencil and triangle are required. Ruler and plastic indicator are permanently attached to board. Made by **Bradford Bailey Co.,** Room 107, P. O. Box 440, Elizabeth, N. J.

For more details circle **NED-454 C3** on enclosed inquiry slip

ROTARY TABLE
power operated tilting model



With rotation provided by a three-phase ½-hp shell type motor built into the table pivot, this 24-in. rotary table can be tilted from 0 to 90 degrees. Rotation is through 360 degrees in either direction and in any plane of arc, by push-button controls. Fine rotary adjustment is by handwheel, with table graduation in degrees read directly off the table and minutes read on the table rotary wheel dial. Incorporated vernier makes possible readings to 2-second intervals. A vernier is also provided on the tilting mechanism. Sine bar method is used for extremely accurate table arc positioning. Made by **Niles-Bement-Pond Co.,** Pratt & Whitney Div., 20 Charter Oak Blvd., West Hartford 1, Conn.

For more details circle **NED-455 C3** on enclosed inquiry slip

DO YOU KNOW? New rules have been announced for the $2000 prize competition for "Contributions to the Science and Art of 'Non-Fusion' Welding, Brazing and Soldering." A second category with $550 in prizes has been established for "Practical Welding Applications." Full details of contest are available from Eutectic Welding Alloys Corp., Dept. P, 172nd St. & Northern Blvd., Flushing 58, N. Y.

For more details circle **NED-456 C3** on enclosed inquiry slip

THE *New* **SAF-I-LENS**

Your choice of 3 Lens Materials

OPTILITE A—Recommended as your first choice because its extremely hard surface offers greater resistance to abrasion. Lightweight, great strength and fine optical qualities assure employee acceptance. Exceeds Federal Specifications for impact-resistance. Made of a special formula optical plastic.

OPTILITE B—Recommended as your second choice because of extremely low cost. Lightweight, assures employee acceptance. Meets Federal Specifications for impact-resistance and optical qualities. Will last 10 times as long as glass on jobs where pitting occurs. Made of a special formula optical plastic.

HARDENED SAFETY GLASS—For those who desire hardened safety glass we offer these lenses which are manufactured in strict accordance with Federal Specifications.

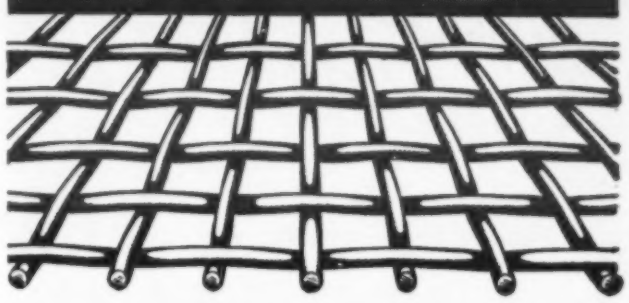
ALL LENSES FIT ANY STANDARD FRAME

Write for literature and prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI · BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada PARMELEE, LTD. Toronto — Montreal

For more details circle **NED-457 C3** on enclosed inquiry slip

CAL-WIC WIRE CLOTH



meets all STANDARD and SPECIAL requirements

Either as original equipment or for specialized uses in filtering, screening, grading, cleaning or processing, Cal-Wic Wire Cloth is available in the right weave, mesh and weight to give you long-wearing, dependable service.

Made in different types of metals and alloys for high resistance to chemical action, corrosion, abrasion and temperature extremes.

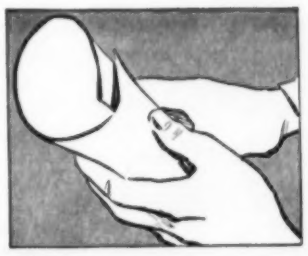
For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC CF&I
INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

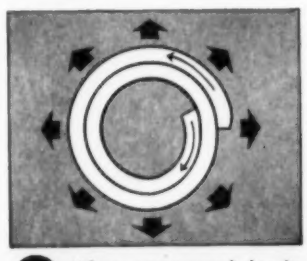
For more details circle **NED-458 C3** on enclosed inquiry slip

SPIRAL SPRING COILS MAKE
SPIROL PIN

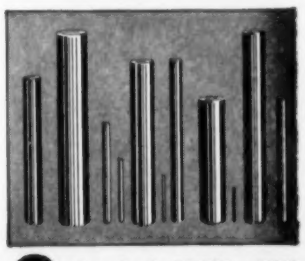


1 Roll a piece of paper spirally into a double coil. This is the way SPIROL PINS are rolled of steel or other flexible materials.

2 Compress roll and insert into circle of thumb and forefinger. Note "live action" as it expands to lock itself in circle. This is the SPIROL PIN principle.



3 When compressed by insertion, SPIROL PIN immediately develops evenly distributed radial tension, holding it firmly in place.



4 Standard SPIROL PINS from 1/32" to 1/2" diameters, and 1/8" to 4" lengths. Non-standard diameters, lengths & materials available on order.

The all-around tension provided by spiral coils gives SPIROL PIN unique fastening properties. Radial spring action locks SPIROL PIN in place . . . eliminates close tolerances . . . allows easy removal and reuse of pin. The design provides an infinite range of controlled variations in shock and shear resistance, insertion pressure, and flexibility.

FREE! Write for illustrated folder and sample SPIROL pins.

C. E. M. COMPANY
27 SCHOOL STREET • DANIELSON, CONN.

For more details circle **NED-459 C3** on enclosed inquiry slip

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen — and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51

It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. 7, 10 East 40th St. New York 16, • N. Y.

WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

▲ For more details circle NED-462 C3 on enclosed inquiry slip ▲

NEW T-J
Spacemaker
AIR CYLINDERS

Saves up to 40% Space!

Streamlined construction of the new T-J Cylinders *eliminates tie rods . . . reduces head size . . .* and *saves up to 40% in mounting space!* In addition, a new high in strength is achieved with solid steel heads and heavy wall seamless steel body . . . leakproof construction . . . extra high safety factor. Cylinder walls are precision honed and hard chrome plated for long-life efficiency. Available with new T-J Super Cushion Flexible Seals. Many standard sizes and styles . . . cushioned and non-cushioned . . . for pushing, pulling, lifting, clamping or control jobs. Write for bulletin 8152. The Tomkins-Johnson Co., Jackson, Michigan.

37 YEARS EXPERIENCE (T-J)
TOMKINS-JOHNSON
RIVETERS . AIR AND HYDRAULIC CYLINDERS . CUTTERS . CLINCHERS

▲ For more details circle NED-463 C3 on enclosed inquiry slip ▲

Announcing

HARTZELL'S
New Line of
Centrifugal Blowers

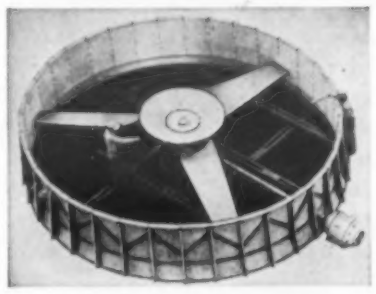
After 27 years of *industrial* air-moving experience Hartzell presents their new line of centrifugal blowers. These new blowers, combined with Hartzell propeller-type fans and blowers, round out the line to meet your air-moving requirements. Models to meet practically every industrial need. Belt-drive, direct-drive and special pressure types. 4½" to 48". Simple, sturdy, welded-steel construction. And they come to you backed by the know-how of your nearby *air-minded* Hartzell representative. If you know Hartzell propeller-type fans and vaneaxial blowers you know Hartzell centrifugal blowers *must* be good. Our new centrifugal blower catalog B-10 is packed with information. Write for it.

HARTZELL *propeller fan co.*
Div. of Castle Hills Corp.
Dept. G. PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-464 C3 on enclosed inquiry slip ▲

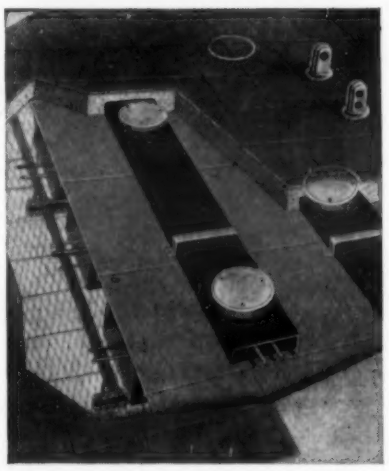
COOLING TOWER FANS
in 48 and 72-in. diameter hub sizes



Basic sizes of 48 and 72-in. diameter hubs are available in class 7000, type C fans for cooling tower or large heat exchanger application. Standard diameters are up to 24 ft, with larger fans furnished on special order. Units are constructed of corrosion-resistant materials throughout, and may be ordered in Monel, stainless steel or silicon bronze. Resilient mounting of blades, furnished in any number from 2 to 8 according to requirements, stimulates a hinged joint, allowing blade to find an operating position where centrifugal force balances the forces of lift and drag. Bending stresses at root of blade are eliminated since blade can rise and fall under shocks of turbulent air. Simultaneous adjustment of all blades is by means of one nut. Made by **Moore Co.**, 801 S. Missouri Ave., Marceline, Mo.

▲ For more details circle NED-465 C3 on enclosed inquiry slip ▲

STEEL SUB FLOORING
design requires less concrete, eases electric outlet installation



Cellular, light gage steel Electrifloor features a header duct system with conductors running through cells, permitting installation of electrical outlets in each square foot of space. Enclosed cells assure smooth, clean raceways for electrification. Only 3 in. of concrete is required over the flooring, and joists and metal lathing are eliminated. Subfloor is composed of unit panels which can be welded together in any combination. Each panel can be carried by two men.

Load-bearing capacity, fire resistance and ability to resist lateral forces caused by earthquakes, floods, high winds and concussive blasts are acceptable by National Building and most major city codes. Cutaway section of Fenestra-Nepco floor shown represents 3 in. of concrete, while black strips are Nepco header ducts which connect longitudinal panel cells. Developed in connection with National Electric Products Corp. by **Detroit Steel Products Co.**, 2251 E. Grand Blvd., Detroit, Mich.

▲ For more details circle NED-466 C3 on enclosed inquiry slip ▲

Your Entire Stock of Drills...
Seen at a glance

HUOT DRILL DISPENSER
for
• TOOL CRIBS • STOCK ROOMS • MACHINE SHOPS

Saves Time hunting through stacks of packaged drills. Compartments hold a gross of small sizes — a dozen or more of the larger ones. Raised letters on easy sliding drawers . . . hammerlin gray baked enamel finish . . . 14½"x7¼"x7¼".

Write for Circular
Model No. 1: Fractional drills 1/16" to ½"
Model No. 2: Number drills 1 to 60
Model No. 3: Letter drills A to Z

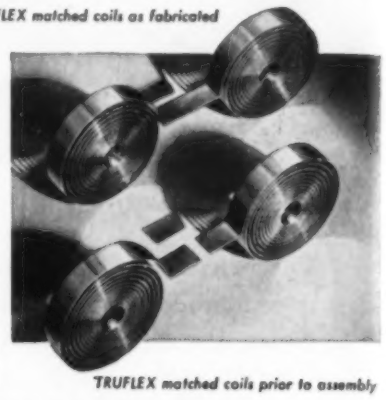
HUOT MFG. CO. 571 NORTH WHEELER ST. PAUL 5, MINNESOTA
Huot is pronounced "How-ot"

▲ For more details circle NED-467 C3 on enclosed inquiry slip ▲

PROBLEM:
To obtain uniformity of performance between two thermostat elements used in thermal type demand meters

SOLUTION:
General Plate provided the solution with identically matched TRUFLEX® Thermostat Metal Coils

TRUFLEX matched coils as fabricated



TRUFLEX matched coils prior to assembly

Manufacturers of thermal type demand meters were faced with the problem of obtaining two thermostat elements for each meter that had identical performance characteristics.

When these coils were made individually each one had to be tested 100% and then paired together with the coil that had, as near as possible, the same operating characteristics for use in each meter. This meant costly testing procedures, rejects and often unsatisfactory performance.

General Plate found the solution by making *matched coils* from adjacent sections of a single *Truflex* thermostat metal strip as illustrated. Since the coils were made from identical material, they were automatically *paired* with the same uniform operating characteristics.

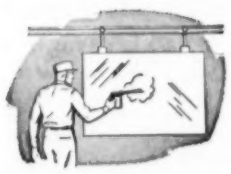
You, too, can save by using Truflex Thermostat Metals. Write for Catalog PR700. It gives information on these and other General Plate products.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
83 FOREST STREET, ATTLEBORO, MASS.

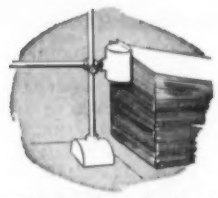
▲ For more details circle NED-468 C3 on enclosed inquiry slip ▲

FREE
PERMANENT MAGNET IDEA LITERATURE KIT

Shows you how Carboloy magnets can speed up your shop work . . . save you time, money



In holding steel plates to conveyors, for example . . .



separating tin sheets to prevent feeding doubles . . .

holding work steady for drilling and grinding . . .

or for recovering tools from dip and coolant tanks.

NOW, see how Carboloy permanent magnets can eliminate clamps, jigs, vises, fixtures and other costly units . . . speed up jobs, retrieve tools, perform all sorts of unique and useful services around your plant.

Send for free kit containing handy magnet ideas you can put to work at once — complete with diagrams, full details. Send today, and from time to time, we'll send you other free application suggestions that will really pay off for you.

PERMANENT MAGNET BENEFITS

Carboloy permanent magnets need no electric power, have no operating parts. Give off stable, powerful energy that lasts permanently . . . are not affected by heat, moisture, vibration . . . cost nothing to operate. Write today for the full story and for your *free* magnet idea kit. No obligation, of course.

"You-Try-It" Magnet Packages Available

Shop Package No. 1 — Contains 48 Carboloy permanent magnets: 8 styles — 3 pairs each. Magnetic pull up to 2 lbs. per magnet. Price $10.00. Get yours now!

Shop Package No. 2 — Contains 18 magnets: 4 styles — 2 pairs each, and 1 style — 1 pair. Magnetic pull from 3 lbs. to 12 lbs. per magnet. Price $15.00. Order today!

"Carboloy" is the registered trademark for the products of Carboloy Department of General Electric Company

CARBOLOY PERMANENT MAGNETS
DEPARTMENT OF GENERAL ELECTRIC COMPANY
11199 E. 8 Mile Road, Dept. B, Detroit 32, Michigan
Plants at Detroit, Michigan; Edmore, Michigan; and Schenectady, New York

▲ For more details circle NED-469 C3 on enclosed inquiry slip ▲

Don't Say Resistors

Specify **DAVOHMS**

The Complete, Superior Line of Precision

WIRE WOUND RESISTORS

Made Only By **DAVEN**

ELECTRONIC SPECIALISTS FOR MORE THAN A GENERATION

- Accuracies to .05%
- All Temperature Coefficients
- All Types of Mountings
- Hermetically Sealed Types
- Feature Resistance Wire.
- Specially Coated with Tough Formex Insulation
- Manufactured to Famous Daven Standards of Precision
- One Recognized Source for All Of Your Requirements in Resistors

Write for detailed bulletin

THE **DAVEN** CO.

199 Central Avenue • Newark 4, N. J.

For more details circle NED-470 C3 on enclosed inquiry slip

UNIT WEIGHT CONVEYOR
for feeding plastic molding machines with accurate unit weight charges

Accurate unit weights can be fed automatically to the cavity of plastic molding machines by the unit weight conveyor designed for installation alongside any size machine where it is impractical to install the weigher above the molding machine. A Gump-Duplex automatic net weigher is an integral part of the unit weight conveying system.

Standard model has six stainless steel buckets. Weigher is adjustable to discharge the exact weight required for each mold. The molding machine itself activates a circuit which causes a bucket to dump into its hopper. Capacity of each bucket is 420 cu in., or about 3½ lb of polystyrene. Weight range of weigher is 4 oz to 3 lb. The conveyor is built in heights from 6 to 26 ft and with cross arms from 4 to 12 ft. Made by **B. F. Gump Co.**, 1313 S. Cicero Ave., Chicago 50, Ill.

For more details circle NED-473 C3 on enclosed inquiry slip

WORKS LIKE DYNAMITE!

but a safe cleaner for aluminum

the Original **GUNK** HYDRO-SEAL

world's most powerful solvent for cleaning carbonaceous tars, carbon, paint from carburetors, pneumatic tools, internal combustion engine parts, diesel injector nozzles, oil burner nozzles, etc.

a synergistic Di-Phase solvent
27 times faster cleaning than lye

free of causticity and toxicity
— safe to handle

self-emulsifying and self-scouring

extreme solvency — terrific penetration

brightens aluminum without etching, loss of weight or dimension

available in 5—30—55 gal. sz. ready to use Kits and 1 gal Rejuvenator size

send for technical data sheet

IMMEDIATE DELIVERY — 1 GALLON OR A TANK CAR

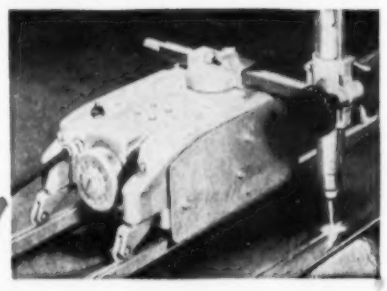
CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

122 South Canal Street

For more details circle NED-476 C3 on enclosed inquiry slip

SAVE TIME AND MONEY with this

OXWELD Trade-Mark **MACHINE CARRIAGE**



Here is a new lightweight machine carriage—the OXWELD CM-45—that will mechanize literally dozens of oxy-acetylene jobs in large or small metalworking shops, and do them better than the most skilled hands.

You save money when you let the CM-45 do your cutting, beveling, flame-treating, or special welding jobs. Its efficient operation saves oxygen and acetylene as well as time, and rejects are reduced to a minimum.

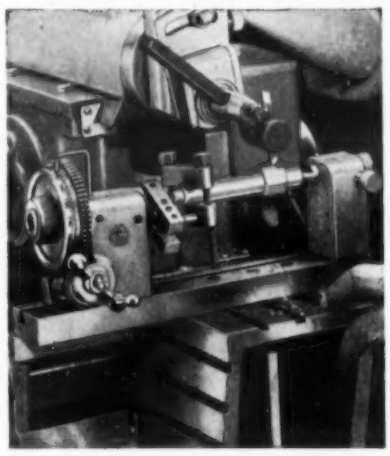
For further information, call your nearest LINDE representative today. Ask for a free copy of Form 7839. No obligation.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 E. 42nd St., New York 17, N.Y. Offices in Other Principal Cities
In Canada: Dominion Oxygen Company, Limited, Toronto

"Oxweld" is a trade-mark of Union Carbide and Carbon Corporation.

For more details circle NED-471 C3 on enclosed inquiry slip

INDEXING CENTER
for various machining functions

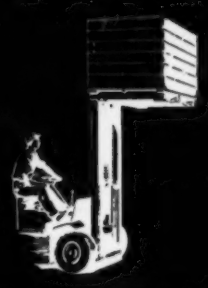


Such dividing operations as machining splines, flutes and gears; milling, shaping and grinding squares, hexagons or odd angles; and cross-drilling to close tolerances are applications for this indexing center. Designed for small precision work, it can take stock up to 5 in. diameter and 6 in. long. It has graduated collar, with ball crank and worm gear turning the head center. Each graduation indicates center movement of 3 minutes and a complete turn of the ball crank revolves the center 5 degrees. For quick positioning, worm gear can be disengaged and clamping device used to lock the head center. A plunger type tail center with automatic spring tension permits work removal without disturbing the head center. Made by **South Bend Lathe Works**, 307 E. Madison St., South Bend 22, Ind.

For more details circle NED-474 C3 on enclosed inquiry slip

Generalift ★★★★★

PALLET BOXES



cut materials handling costs 50%

WRITE US FOR DETAILS

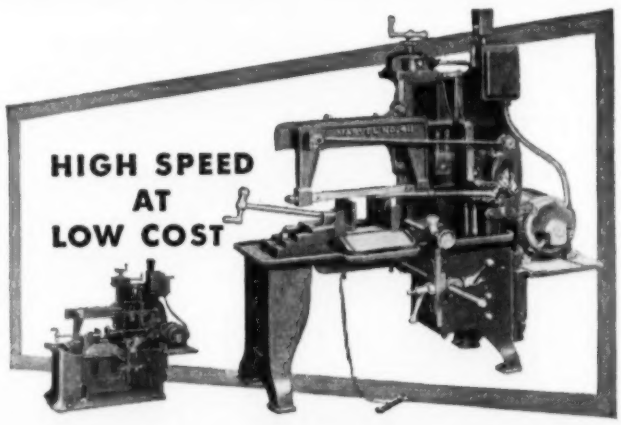
Send for your Free Copy of "THE GENERAL BOX"

General ★★★★★ **BOX COMPANY**

GENERAL OFFICES: 1859 MINER STREET
DES PLAINES, ILLINOIS

DISTRICT OFFICES AND FACTORIES: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston, Dallas

For more details circle NED-472 C3 on enclosed inquiry slip



For tool room, stockroom, or maintenance shop, this 6" x 6" capacity hack saw is ideal when you want speed, accuracy, and economical operation at lowest possible investment.

Embodies similar design principles and features of MARVEL heavier duty production saws. Its shaper-link action that provides quick return stroke, and its heavy pressure screw feed are two exclusive MARVEL features that provide FASTER cutting than can be obtained with any other metal saw in its price class.

Single speed, 2-speed, and 4-speed models are available, to suit all types of applications where materials of different hardness and alloy characteristics are to be cut. Cabinet base or open-leg base are optional.

Metal Cutting **MARVEL SAWS**

Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

5700 Bloomingdale Ave. Chicago 39, U.S.A.

For more details circle NED-475 C3 on enclosed inquiry slip

"JET" Handling of Condensate

ZOOMS PRODUCTION AS MUCH AS 35%...

CHOPS FUEL COSTS 10% OR MORE

cochrane

C-B

CONDENSATE DRAINAGE CONTROL SYSTEM

Over 1700 installations prove it. In any kind of steam process work, Cochrane's "JET" principle of condensate drainage speeds production, saves fuel cost, improves product quality.

Production can be raised as much as 35% because the Cochrane "JET" unit removes "insulating" layers of condensate—continuously and efficiently—from all types of steam-processing equipment. The Cochrane unit assures faster, more efficient heat transfer—shorter cooking and curing cycles—elimination of cold-starts. Product quality is improved, too, by leveling-out heat fluctuations, eliminating cold-spots, reducing processing time.

Fuel costs drop 10% or more because the Cochrane's C-B unit returns condensate to the boiler with no temperature or pressure reduction. Make-up water costs decline sharply because no water is lost through flashing. Boiler room maintenance costs decrease also, because the Cochrane unit separates entrained gases and air from returned condensate.

Write us today. We'll be glad to show you how a Cochrane C-B High Pressure Condensate Drainage Control System can help you when used with . . .

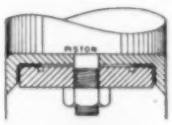
Platen Presses	Vulcanizers	Tumblers
Jacketed Kettles	Tube Dryers	Coil Cookers
Dry Cans	Ironers	Drum Dryers
Expellers	Dry Plates	Spray Dryers
Drying Rolls	Unit Heaters	Presses
Dryers	Jacketed Mixers	Digesters

cochrane corporation

3143 N. 17th Street, Philadelphia 32, Pa.

For more details circle NED-477 C3 on enclosed inquiry slip

Eliminate leakage in hydraulic and pneumatic cylinders . . . assure positive sealing and longer packing life by maintaining constant contact between packing lip and cylinder wall. **HPL** Cup Expanders are highly impervious to the effects of brine, alcohol and gasoline . . . easily and quickly installed without special adapters or design changes in clamping plate. **HPL** Cup Expanders are especially recommended for cylinders less than 3 inches in diameter.



1060-HPL

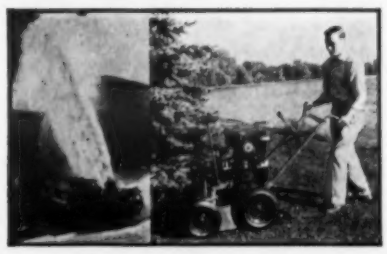
Write today for Bulletin No. 621

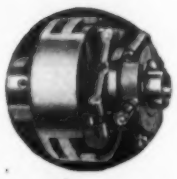
HPL Manufacturing Co.

15211 MILES AVENUE • CLEVELAND 28, OHIO

▲ For more details circle NED-478 C3 on enclosed inquiry slip ▲

These Motorized "Yard Boys"





Work Winter and Summer

The TORO Snow Boy handles loose or packed snow — loading it into trucks or blowing it up to 65 feet. The TORO Grass King cuts up to 6 acres a day. ROCKFORD CLUTCHES transmit the power in these labor-saving units. Let ROCKFORD clutch engineers help design efficient power transmission controls for *your* machines.

B-W ENGINEERING MAKES IT WORK
B-W PRODUCTION MAKES IT AVAILABLE

ENGINEERING BULLETIN SENT ON REQUEST

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U. S. A.

ROCKFORD CLUTCHES

▲ For more details circle NED-479 C3 on enclosed inquiry slip ▲

Air Valves

MODEL 2100

RIVETT OFFERS 19 models for individual air needs!

You can get the required size and type air valve from Rivett! Suitable for pressures up to 150 P.S.I., Rivett 4-way valves are available in 5 types of operation: hand, foot, cam, solenoid, and pilot. Five sizes: 1/4", 3/8", 1/2", 3/4" and 1". Pilot valves in side and foot mountings—and in palm, push button, cam, foot and solenoid operation.

Write for Catalog Section 302 showing specifications and drawings of Rivett air valves.

RIVETT LATHE & GRINDER INC.
Brighton 35, Boston, Mass., Department NED-3

▲ For more details circle NED-480 C3 on enclosed inquiry slip ▲

PORTABLE MIXER for viscous liquids

Designated as a portable gear head mixer for viscous liquids, this unit has a ⅓-hp motor and a ¾-in. diameter 48-in. long stainless steel shaft. It can be used for mixing large quantities of less viscous liquids. Shaft is interchangeable with other sizes to fit individual requirements. Two 7-in. stainless steel deep-pitch propellers, furnished as standard equipment, can be replaced with 8, 10 or 12-in. cast iron or aluminum propellers. An adjustable clamp adapts it to any angle and to any tank shape. The 1750 rpm G-E motor drives the propeller at 432 rpm. Operation is on 110 or 220 v. Made by **Standard Electric Mfg. Co.**, West Berlin 28, N. J.

▲ For more details circle NED-481 C3 on enclosed inquiry slip ▲

CONDUCTIVITY TESTER for electrical resistance tests

Model 269 Vibrotest conductivity tester can be used on floors, furniture, personnel and in other locations where hazardous atmospheres or chemicals require prevention of static electricity discharges. It meets National Fire Protection Association recommendations for electrical resistance tests of conductive materials. Instrument has two color-coded scales, one for conductive material tests and the other for personnel and conductive shoe tests. Two 10-ft leads are furnished for use with 5-lb floor electrodes or for connection to other apparatus being tested. It is operated by two self-contained No. 6 dry cells and is housed in 12¼ x 10¾ x 5¼ in. steel case. Made by **Associated Research, Inc.**, 3786 W. Belmont Ave., Chicago 18, Ill.

▲ For more details circle NED-482 C3 on enclosed inquiry slip ▲

DO YOU KNOW? They've published a booklet which will enable building and safety engineers or superintendents to select the right ladder to best suit the needs of his plant. Entitled "There's a Right Ladder for Every Job", this booklet digests all the facts one should know about ladders. A copy is free for the asking. Write to the American Ladder Institute, 666 Lake Shore Dr., Chicago 11, Ill.

▲ For more details circle NED-483 C3 on enclosed inquiry slip ▲

One standard package of ISOMODE* PADS gives you

vibration control for 80 tons of machines

...INCLUDING PRESSES

It pays to keep a standard package of ten Isomode Pads in stock. Costs less that way—and then you always have it on the spot for installing machinery—up to 80 tons of it. Supporting up to 50 lbs/sq. in., Isomode Pads really make a difference in plant operations. Here's how: (1) No need to bolt to any type of floor. Machines stay put. (2) Isomode Pads help reduce noise level, increase comfort. (3) Less disturbance to offices or adjacent equipment. (4) Less damage to building, less strain on machines, less maintenance. Write for data.

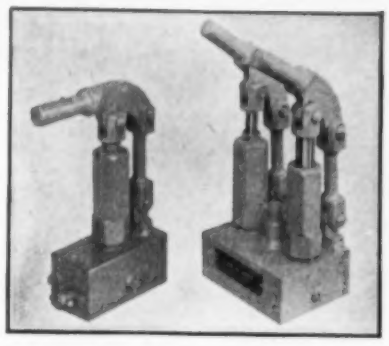
**Trade Mark Reg. U.S. Pat. Off.*

THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

▲ For more details circle NED-484 C3 on enclosed inquiry slip ▲

HAND HYDRAULIC PUMP

Single and Double Designs To 20,000 Pounds



Interchangeable Pistons ⅜-½-¾ inch
★
Integral Release Valve
★
Unit Reservoir 360 cu. in.

Pressure range is 3,000 to 20,000 pounds. Pipe connections measure ¼ inch. Handle length is 18 inches. Weight is 8 to 18 pounds. Can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-485 C3 on enclosed inquiry slip ▲

These popular extra-handy RIDGID drop head dies give you clean threads fast and easily

★ Small, well balanced, clean cutting, these popular RIDGID ratchet threaders are a pleasure to work with. They save you time and effort because heads snap into drive ring from either side, won't fall out. Precision-cut alloy dies reverse for close-to-wall threads — no special dies needed.

★ 00R and 0R, ⅛" to 1"; 111R and 11R, ⅛" to 1¼"; 12R, ⅛" to 2". Conduit dies, too—and free carrier with sets. Buy them at your Supply House.

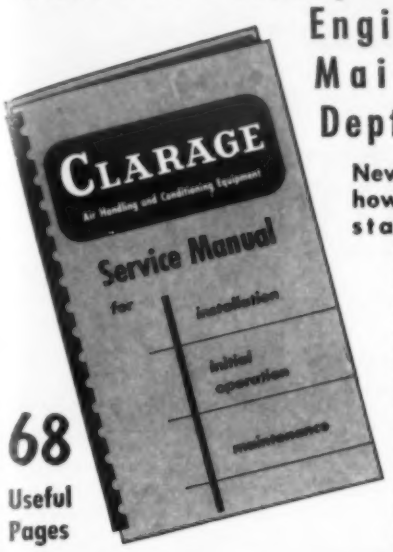
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID Work-Saver Pipe Tools

▲ For more details circle NED-486 C3 on enclosed inquiry slip ▲

Valuable Information

FREE to Factory Executives, Engineers and Maintenance Dept. Officials



68 Useful Pages

New Manual shows how to properly install and service Clarage fans, blowers and air conditioning units . . . valuable information adaptable to almost any type of fan job. Sent without charge to key men who qualify by writing us on their company's letterhead.

YOU CAN RELY ON
CLARAGE
CLARAGE FAN COMPANY, Kalamazoo, Mich.
Sales Engineering Offices in All Principal Cities

For more details circle NED-487 C3 on enclosed inquiry slip

RE-NU TOP
STEEL-BOUND
SKID PLATFORMS

BUILT TO LAST A LIFETIME

500 LB. LOAD UP TO 10 TONS

Designed to fit your loads and equipment. Plain bolted construction for use with hand lift trucks or bolted and welded under frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

SECTIONAL BINS ROLLAWAY SKIDS SKID-BOXES

THE LANHAM COMPANY
Magnolia & 12th Sts., Louisville, Ky.

For more details circle NED-488 C3 on enclosed inquiry slip

Use ARCOS Stainless Electrodes

Dependable weld performance on stainless fabrication requires weld metal with the correct chemical composition.

The Arcos quality controls give you this assurance with every lot of Stainless Electrodes you receive. From the chemical analysis of the raw materials, to the analysis of actual weld metal, every control test is applied to assure you chemically correct weld metal at all times. In your own plant that can mean improved welding performance . . . fewer rejects . . . lower weld costs.

New chart of typical weld metal analysis tells what Arcos electrodes deliver. Copy on request. Arcos Corporation • 1500 South 50th Street • Philadelphia 43, Penna.

WELD WITH ARCOS
Stainless, Low Hydrogen and Non-Ferrous Electrodes

For more details circle NED-489 C3 on enclosed inquiry slip

INTERCOMMUNICATION UNIT has baseboard-mounted power supply

Rated at 20 w, the Redi-Power Talk-A-Phone features a baseboard mounted power supply which enables it to deliver up to twice the maximum output of its 10-w counterpart. Power supply is self-compensating to deliver power required by all or a select group of stations. New model intercommunication unit also features Hold-a-matic conference control, dictation control and a safety fuse. Twelve, 20, 30 or 40-station capacity can be housed in the same cabinet with only 12 pushbuttons. Made by **Talk-A-Phone Co.,** 1512-Q S. Pulaski Rd., Chicago 23, Ill.

For more details circle NED-490 C3 on enclosed inquiry slip

ROD CUTOFF MACHINE handles 1/16 to 5/8-in. rods, bars

A motor driven flywheel is principal improvement of redesigned Di - Acro power rod parter for cutting or "parting off" rods and bars from 1/16 to 5/8 in. without burr or distortion. Flywheel drive, operating at 180 strokes per minute, provides six times the cutting speed previously available with air-operated unit. An Ejectomatic gage allows separate operation of gaging, ejecting and cutting to be performed in single working cycle. Flywheel motor and other moving parts are housed in welded steel cabinet. Heads for cutting square, rectangular, hexagonal and other shaped bars can be supplied. Standard ½-hp motor can be 110-220 v ac single phase or 220-440 v three-phase type. Made by **O'Neil-Irwin Mfg. Co.,** 582 Eighth Ave., Lake City, Minn.

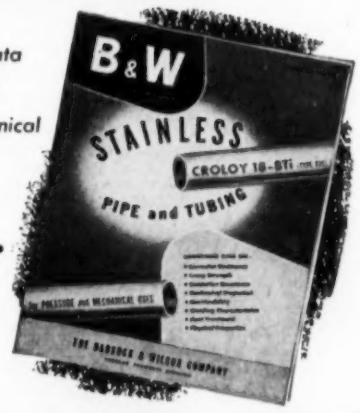
For more details circle NED-491 C3 on enclosed inquiry slip

DO YOU KNOW? Tropilux oil base flat paint for interior use is completely odorless. It is self-priming, fast drying and has excellent one-coat coverage. It can be applied over painted plaster, cement, wallboard or masonry by brush, roller or spray. It levels free of brush marks and can be washed within 24 hours of application. Made by Tropical Paint & Oil Co., 1150-1300 W. 70th St., Cleveland 2, O.

For more details circle NED-492 C3 on enclosed inquiry slip

B&W STAINLESS
PIPE and TUBING

Condensed Technical Data On B&W Croloy 18-8Ti (AISI Type 321) For Pressure and Mechanical Uses



a digest of valuable information on—

• Corrosion Resistance • Creep Strength • Oxidation Resistance • Mechanical Properties • Machinability • Welding Characteristics • Heat Treatment • Physical Properties.

Write for TDC 144

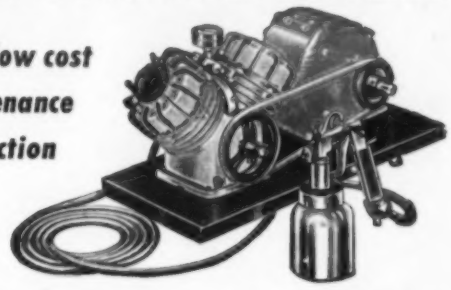
TA-1717 (LP)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices: Beaver Falls, Penna.
Plants: Beaver Falls, Penna. and Alliance, Ohio

For more details circle NED-493 C3 on enclosed inquiry slip

Speedy Sprayer
PORTABLE PAINT SPRAYERS

for low cost plant maintenance and production



Dozens of handy, money-saving uses for these portable SPEEDY SPRAYERS! Operate anywhere in or out of your plant beyond the reach of air lines. Rugged, powerful, sprays all materials. Or use as source of compressed air, as vacuum pump or to inflate tires, etc. Absolutely clean, oil-free air assured by proved diaphragm principle employing no oily pistons. Order SPEEDY SPRAYER from your mill supply house or write direct for free catalog.

MODEL 444—½ H.P.
Heavy duty master twin. Delivers 4 cu. ft. air per minute at 40 lbs. Operates with ½ H.P. motor or gas engine. Complete with gun, 15 ft. air hose, less motor, $59.50

MODEL 890—¼ H.P.
2 cu. ft. air per minute at 30-40 lbs. pressure, less motor, $32.50

No. 778 Utility Paint Container for above models, holds 3 gals. paint. $19.95

W. R. BROWN CORP.
2673 Normandy Ave., Chicago 35, Ill.

Specialists in Portable Sprayers for over 20 years.

For more details circle NED-494 C3 on enclosed inquiry slip

ACCURATE COPIES
OF LETTERS, REPORTS, DRAWINGS, INVOICES
READY IN SECONDS!

The amazing desk-top OZAMATIC makes up to 1000 letter-size copies an hour . . . for less than 1½ cents each!

No Retyping! No Proof-reading! No Errors!

The amazing desk-top OZAMATIC speeds up work . . . cuts down cost! Simply feed in original documents or drawings on ordinary translucent materials. In seconds you have your first copy—*clean, dry, ready-to-use!* Copies at a rate up to 1,000 an hour . . . at a cost of less than 1½ cents each.

You'll find dozens of uses for the entirely self-contained OZAMATIC. It accommodates material up to 16 inches wide, makes Ozalid copies at speeds up to 30 feet per minute. Larger Ozalid machines accept wider originals, and have even greater capacity. Any girl in your office can learn to operate any Ozalid machine in five minutes.

Write today for free, illustrated literature—or call the Ozalid distributor listed in the classified pages of your phone directory.

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OZALID

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A Division of General Aniline & Film Corporation
"From Research to Reality"
Ozalid in Canada—Hughes Owens, Ltd., Montreal.

For more details circle NED-495 C3 on enclosed inquiry slip

Striping is easy

GRAVITY MARKER A low cost model for marking aisles, loading zones, parking lots. Paints sharp, clear lines 2", 3" or 4" wide on any surface. Protects employees from danger.

ECONO-LINER spray paints continuous or skip lines 2" to 6" wide. Adjustable, free-floating paint guides follow contour of any surface. Converts to a portable spray rig for painting.

Paints lines within ⅛" of fixed objects or stacked cartons.
Paints sharp, clear lines on concrete, wood block, black top, brick or any surface.

UNIVERSAL MFG. & SALES CO.
5211 Pacific Blvd., Huntington Park 1, Cal.

ECONO-LINER GRAVITY

Mark-Rite LINE MARKERS

For more details circle NED-498 C3 on enclosed inquiry slip

THERE are seven stock resistors and eleven made-to-order resistor types in Ward Leonard's line of Vitrohm resistors to give you accurate, uniform, dependable current control.

This is the largest selection of stock resistors, and the most complete supply of resistor components ready for immediate assembly to your particular specifications, ever offered by any manufacturer.

Find out for yourself how Vitrohm resistors will best meet your requirements in current control. Write for our Catalog 15. Ward Leonard Electric Co., 51 South Street, Mt. Vernon, N. Y.

STRIPOHM RESISTOR for tight quarters in electronic equipment

Save money with Vitrohm resistors. Both stock and made-to-order resistors can be supplied promptly to meet your every resistor need.

3.5

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RHEOSTATS • RELAYS • MOTOR CONTROLS • CHROMASTER

For more details circle NED-499 C3 on enclosed inquiry slip

STOP LEAKS

Leaks in concrete walls, masonry, cinder block, etc. can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

MAIL COUPON for TRIAL OFFER

FLEXTITE

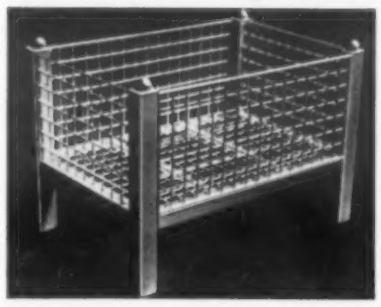
FLEXROCK COMPANY • *Offices in Principal Cities*
3603-F Filbert St., Philadelphia 4, Pa.

Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN — no obligation.

Name ..... Title .....
Company .....
Address .....

For more details circle NED-500 C3 on enclosed inquiry slip

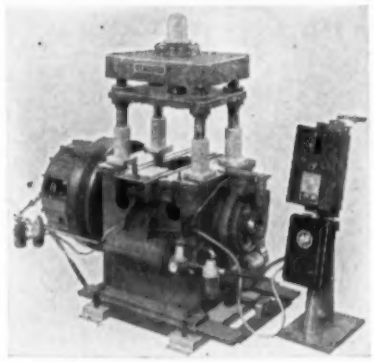
STACKING BOX
4000-lb capacity unit made of wire



Made of wire fabric to decrease weight and allow for ventilation and drainage, this stacking type material handling box is offered in various meshes and sizes according to load requirements. Standard model shown has a 30-cu yd content and a weight capacity of 4000 lb. Lifting hooks for crane handling can be provided. Bottom frame and corner uprights are square welded steel tube. Stacking caps of the self-centering type on the corner posts permit lift truck tiering. Made by **Equipment Mfg., Inc.**, 21566 Hoover Rd., Detroit 5, Mich.

For more details circle NED-501 C3 on enclosed inquiry slip

AIR-OPERATED CUTOFF PRESS
used with cold rolling mill, unit has air operated clutch and brake



Design of this 35-ton cutoff machine developed for use in conjunction with Ardcor cold rolling mills makes it impossible for its air-operated brake and double cylinder clutch to engage simultaneously. Linings are automatically withdrawn from contact with disks, eliminating drag. Shoes and linings are changed quickly without special tools and without removing unit from press. Rotating screw under dome in press head adjusts shut height, while center pilot assures alignment.

Press is supplied with motor, belts and all controls. When equipped with rails for a "flying cutoff die," a heavy duty switch is provided to operate clutch when stock actuates flag on runout table. Controls in separate stand keep operator away from danger points, and clutch and brake have solenoid valve which are tied together electrically and are spring return. Main air line is brought into top of control stand column which acts as surge tank for brake cylinder. Clutch also has surge tank. Filter, regulator and oiler are standard.

If equipped with bolster plates instead of rails, press can operate as continuous automatic dieing machine. A roll feed is furnished for this application. Made by **American Roller Die Corp.**, 20500 St. Clair Ave., Cleveland 17, O.

For more details circle NED-502 C3 on enclosed inquiry slip

NOLAN ONE-MAN CAR DOOR OPENER

Opens Doors in 20 seconds or less!

The Nolan Car Door Opener gives one man a tremendous amount of pulling energy, to get the most stubborn, hard-rolling door wide open in a hurry!

No gangs needed. No mangled limbs or loss of life. A few quick pulls on anchor chain gets any door open in a jiffy. The NOLAN saves its low initial cost in first hour of operation.

New safety and efficiency features now make the Nolan 1-Man Car Door Opener a more necessary labor-saving money-saving help than ever before.

Free Literature. Order one or more NOLAN Model-H Car Door Openers now. Catalog on request.

MANY THOUSANDS IN CONSTANT DAILY USE

$29.50 F.O.B. Bowerston

THE NOLAN COMPANY, 128-C Pennsylvania Street, Bowerston, Ohio

For more details circle NED-503 C3 on enclosed inquiry slip

RITE-HITE
ADJUSTABLE LOADING DOCKS

- Make a perfect BRIDGE between truck and dock.
- Quick Fingertip Control. One man sets vertical and lateral adjustment instantly.
- Save Crew and Carrier Time.
- Provide smooth "No-Bump" travel.
- Prevent damage to material.
- Easy to install, no costly machinery, no electric or fluid controls, no piping, no lubrication.

Speed Up Cross Dock Operations by installing RITE-HITE Adjustable Loading Docks.

For complete facts, sizes and capacities, write to: Dept. 14

LOOMIS MACHINE CO. • CLARE, MICH.
RITE-HITE DIVISION

For more details circle NED-504 C3 on enclosed inquiry slip

VARIACS for S-M-O-O-T-H Voltage control

The VARIAC® . . . the original continuously-adjustable autotransformer . . . is the ideal control for varing the a-c voltage applied to any electrical equipment.

Voltages from zero to 17% above line are obtained by a 320-degree rotation of a knob which is equipped with a direct-reading dial calibrated in large, easy-to-read figures.

The VARIAC offers many advantages over any other type of a-c control. VARIACS are supplied in many models and assemblies with power ratings from 170 watts to 25 kilowatts. Prices start at $12.50.

Write for the VARIAC BULLETIN for complete information

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 *920 South Michigan Ave.* CHICAGO 5
1000 North Seward St. LOS ANGELES 38

For more details circle NED-505 C3 on enclosed inquiry slip

...*yours FREE!* the newest, latest

ALEMITE
Lubrication Fitting DATA SHEETS

easy to use! speed detailing!

These simple, easy-to-use data sheets let you quickly and accurately select the right type Alemite fitting for any bearing. Each fitting is illustrated actual size—complete with individual dimensions. Write for *your* free set *now!* Address Alemite, Dept. NED-33, 1850 Diversey Parkway, Chicago 14, Illinois

ALEMITE
Industrial Lubrication Equipment
1850 Diversey Pkwy., Chicago 14, Ill.
STEWART SW WARNER

For more details circle NED-506 C3 on enclosed inquiry slip

SHIPPING COSTS GO DOWN

CORROSION LOSSES STOP

WITH MARVELLUM VPI® WRAP

• Time consuming slushing, expensive wraps and seals, messy and costly cleaning are no longer necessary if you use Marvellum VPI. Developed for Government shipments during the war, VPI is now available to all. It's the ideal wrap for shipping Ferrous metal parts. A special coating on the paper vaporizes and forms an invisible protective film around the item wrapped, preventing corrosion.

It is easy to use — just fold the paper over the part. Tight seals, rust-preventive oils, puncture-proof wrappings or direct contact with the chemical are not necessary. Yet Marvellum VPI protects against rust for years. Open the wrapping and there's the part as bright and clean as when it was made.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, coating and producing VPI Wraps. Also makers of a wide range of other Barrier Materials, Government Approved, for product protection.

Write for FREE Booklet and name of nearest distributor.

The Marvellum Company

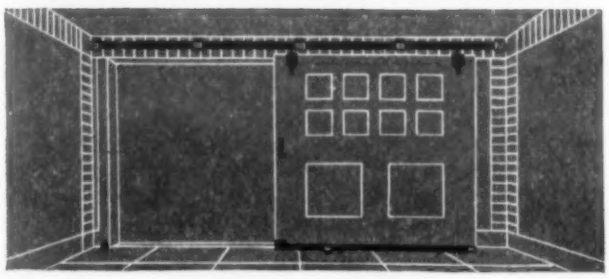
30 APPLETON STREET • HOLYOKE, MASS.

First and Foremost in VPI Protection

For more details circle NED-507 C3 on enclosed inquiry slip

COBURN

SLIDING DOOR HARDWARE



. . . LOW INSTALLATION COST
. . . SMOOTH, EASY OPERATION
. . . LONG, TROUBLE-FREE LIFE
. . . ADAPTABLE FOR BOTH NEW AND REMODELING JOBS

Sliding door hardware for industrial applications of all types: Straight-sliding, sliding-folding, around-the-corner, roundhouse and fire doors.

For additional information write to Sales & Engineering, 56 Sterling St., Clinton, Mass. or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

COBURN PRODUCTS

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

For more details circle NED-508 C3 on enclosed inquiry slip

The NEW F & H ECONOMY WHEEL

A Packaged WHEEL-HUB-SPINDLE-BEARING ASSEMBLY for LIGHT APPLICATIONS

This LOW COST, soundly engineered Economy Wheel is designed for loads averaging 750 lbs. per wheel. For original and replacement use on portable grain elevators, light trailers, lime spreaders, sprayers etc., etc.

ASSEMBLY PARTS

(Left to Right) Rim and Disc, Spindle, Washer, Roller Bearing, Hub, Spacer, Roller Bearing, Washer, Cap and Locking Pin.

MANUFACTURERS

Here is a standard approach that relieves you of engineering and procurement problems — and SAVES substantially on cost. Worth investigating.

We Invite Your Inquiries

FRENCH & HECHT DIVISION
KELSEY-HAYES WHEEL COMPANY
DAVENPORT, IOWA, U. S. A.

For more details circle NED-509 C3 on enclosed inquiry slip

WEIGHT PRINTING SCALE prints on tape or ticket with no chance of human error

Load weight is automatically printed on tape or ticket by the Detecto Weight Printer scale with no chance of human error. If loaded beyond the full capacity of the dial chart, the scale weighs and prints accurately up to the equivalent of nineteen graduations beyond the last graduation on the chart. Printing time is 1½ seconds. An Alnico magnet mechanism automatically reverses the inked printing ribbon.

Motor of the scale, designed for 110-v, 60-cycle, single-phase ac, is energized only when the actuating bar is pushed, but it can be set to run continuously. Motors with other current characteristics are available, as is battery operation for portable units. A device for identifying loads and weights by numerous, letters or symbols is optional. The printer prints one original and three copies. Made by **Detecto Scales, Inc.**, Dept. NED, 540 Park Ave., Brooklyn 5, N. Y.

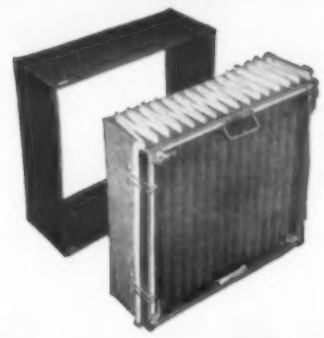
For more details circle NED-510 C3 on enclosed inquiry slip

WELDING TRANSFORMER has 40 to 375 amp current selection

Stepless current selection of 40 to 375 amp is possible with redesigned 300-amp ac welding transformer which incorporates an enlarged scale and finely threaded screw adjustment. Unit accommodates electrodes from 3/32 to ¼-in. diameter and has handy range switch for quick-changing from high to low range. Arc-stabilizing capacitors enable operator to strike and maintain arc without popouts. Highly dielectric silicone insulation protects against high temperature coil failure. Coils are also protected from hotspots by forced draft fan ventilation. From light duty, low-current sheet metal work to heavy-duty high-current industrial jobs can be done by unit. Made by **General Electric Co.**, Schenectady 5, N. Y.

For more details circle NED-511 C3 on enclosed inquiry slip

For more details circle NED-512 C3 on enclosed inquiry slip



Airmat PL-24

BETTER BUILT . . . FOR LONGER LIFE

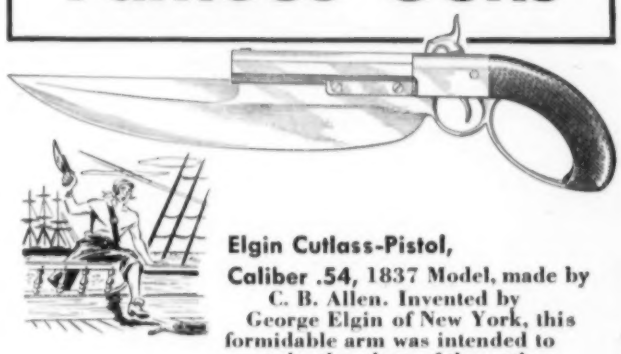
Here's a filter that is really designed for hard usage and long, trouble-free life. The AIRMAT PL-24 is also built for easy maintenance. The precision-made components fit without binding—and separate easily for changing media. There are more than a quarter million AIRMAT PL-24 units now in service—evidence of real dependability! The PL-24 provides a maximum filtering area (7 to 1 ratio) with *positive* sealing against air leakage. Please write for Bulletin No. 230E.

AAF American Air Filter COMPANY, INC.

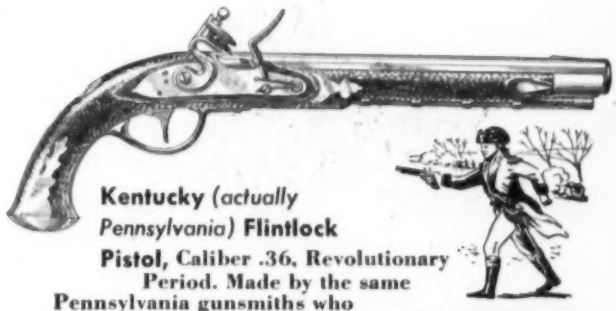
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

For more details circle NED-513 C3 on enclosed inquiry slip

Famous Guns



Elgin Cutlass-Pistol, Caliber .54, 1837 Model, made by C. B. Allen. Invented by George Elgin of New York, this formidable arm was intended to take the place of the cutlass and pistol commonly used by naval boarding parties. One of several variations of this weapon is the shorter Bowie-Knife Pistol.



Kentucky *(actually Pennsylvania)* **Flintlock Pistol, Caliber .36, Revolutionary Period. Made by the same Pennsylvania gunsmiths who crafted the famous "Kentucky" rifles, these full-stocked pistols actually were rifles-in-miniature. Every "Kentucky" pistol is unique; the same gunsmith never made two alike.**

Instant-heating Weller Soldering Gun for light or heavy work. Dual heat greatly increases tip life. Switch instantly to high or low heat as job requires. Pre-focused spotlights end "blind soldering". Exclusive tip-fastening arrangement assures full, constant heat. Shatter-proof plastic housing. Perfect balance. Low-cost, replaceable tips. Pays for itself in a few months. See at your Distributor or write for Bulletin direct.

Get SOLDERING TIPS, new Weller Handy Guide to faster, easier soldering. 20 pages fully illustrated. Price 10c at your Distributor, or order direct.

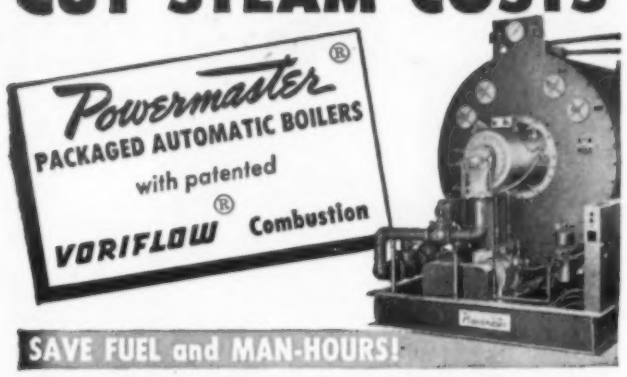
Weller BETTER FROM GRIP TO TIP!

SOLDERING GUNS 809 Packer Street, Easton, Pa.

The Finest Soldering Tool for the Finest Craftsmen

For more details circle NED-514 C3 on enclosed inquiry slip

CUT STEAM COSTS



SAVE FUEL and MAN-HOURS!

Thousands of Powermaster users are now getting top efficiency and low-cost steam or hot water for processing and heat after replacing out-of-date boilers with this modern, fully automatic, "packaged" steam generator.

- High efficiency cuts operating costs as much as 40%
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- Automatic operation frees engineer for other duties
- Mounted on steel base—no bricking required
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- Prompt service by factory-trained men

15 to 500 HP—FOR HOT WATER AND FOR STEAM UP TO 250 P.S.I.—for light oil, heavy oil, gas and combination gas/oil firing. Built to A.S.M.E. specifications and approved by Underwriters' Laboratories.

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930 Morgantown Rd. Reading, Pa.

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ONLY SAFETY BELT HOOKS

have the patented binder bars—are rigidly mounted in double steel strips that hold hooks permanently in alignment, assuring uniform tension across the belt, maximum traction and long belt life. Moreover, these bars protect belts—lap over belt ends, prevent fraying, prevent hooks from pulling out. This better belt lacing comes in 5 sizes. It can be applied with any standard lacer or lacing machine, or, can be applied with an ordinary hammer by using the inexpensive Safety Tu-way Lacer.

Write for Circular

Safety BELT-LACER CO.
5378 N. Menard Ave.
Chicago 30, U. S. A.

Binder Bars — Binder Bars

For more details circle NED-516 C3 on enclosed inquiry slip

Sturtevant Laboratory Equipment meets the exacting requirements of laboratory work. They are fast and accurate...provide true samples. Rugged and dependable, Sturtevant equipment actually has all the features of full size machines plus extra accuracy and wider range of adjustment. The "Open-Door" accessibility permits quick, thorough cleaning . . . prevents the possibility of previous batches from contaminating new samples.
Investigate Sturtevant equipment for your laboratory. Write for complete details and catalog.

STURTEVANT MILL COMPANY
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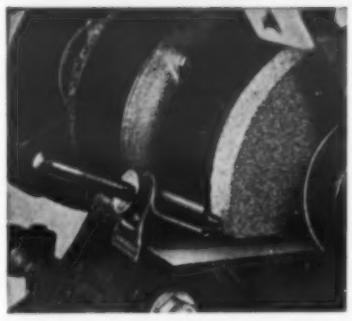
For more details circle NED-517 C3 on enclosed inquiry slip

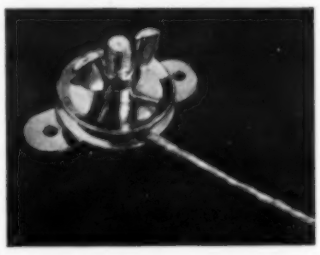
DIAMOND WHEEL DRESSER
angle or side dressing done as well



Grinding wheels up to 10-in. diameter can be trued for accurate and fast tool sharpening by this simply constructed, versatile Dymondcut diamond dresser. Designed for use on pedestal, hand, carbide, surface, disk and toolroom grinders, dresser can also be used for either angle or side dressing. Special applications of this type dresser are available for wheels over 10 in. Made by **Hazerodt Associates,** 415 Ford Bldg., Detroit 26, Mich.

For more details circle NED-518 C3 on enclosed inquiry slip

LINE FASTENER
holds ropes and cables securely



Eight grippers on each No-Knot rope, plastic line and cable fastener enable it to hold lines securely. Use can be to secure truck tarpaulin ropes, boats to piers, awnings and other applications where it is necessary to maintain considerable pull. Portable model can be used on a hook or permanently fastened, while permanent model is for uses where moving is not required. Distributed by **Louell Products Co.,** 423 Fulton St., Brooklyn 1C, N. Y.

For more details circle NED-519 C3 on enclosed inquiry slip

ELECTRIC TYPEWRITER
for bold and regular printwork

Flick of the ribbon control on the Dual-Rite Electri-conomy typewriter enables it to produce either bold or regular weight printwork. For bold printing, a Nylex ribbon rises mechanically in front of the customary paper carbon ribbon. Increased ink deposit from added key impact due to double ribbon thickness and controlled "spread" of the printed type produces the bold appearance. Shift from regular to bold printing is by ribbon control key. Electrified carriage return, adjustable key dip and choice of automatic repeat keys are incorporated. Made by **Remington Rand Inc.,** Dept. NED, 315 Fourth Ave., New York 10, N. Y.

For more details circle NED-520 C3 on enclosed inquiry slip

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WELDPOWER*
Welds parts like these
16 hours per day without maintenance

Says THE RAULAND CORPORATION, Chicago, Ill.

"We use Raytheon WELDPOWER units to fabricate electron gun parts for cathode ray tubes. We find Model 1-S welding heads highly satisfactory for multiple set-ups. Our equipment has run steadily 16 hours per day for six months with negligible maintenance. We would not hesitate to recommend Weldpower equipment for any small part welding."

Look into the many advantages of assembling ferrous, non-ferrous or dissimilar metal parts with Raytheon Weldpower Control Units. Available in 3 sizes with appropriate Weldpower Heads. Send sample parts or write for details.

Address Dept. 6270 -NE-3

*Reg. U. S. Pat. Off.

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Excellence in Electronics
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INTERNATIONAL DIVISION, 19 RECTOR STREET, NEW YORK CITY

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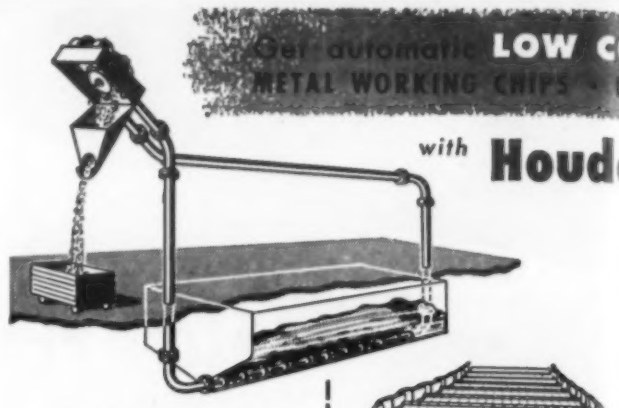
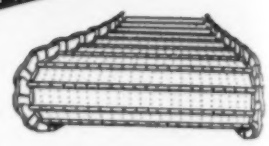




Houdaille Chain Drag Conveyors

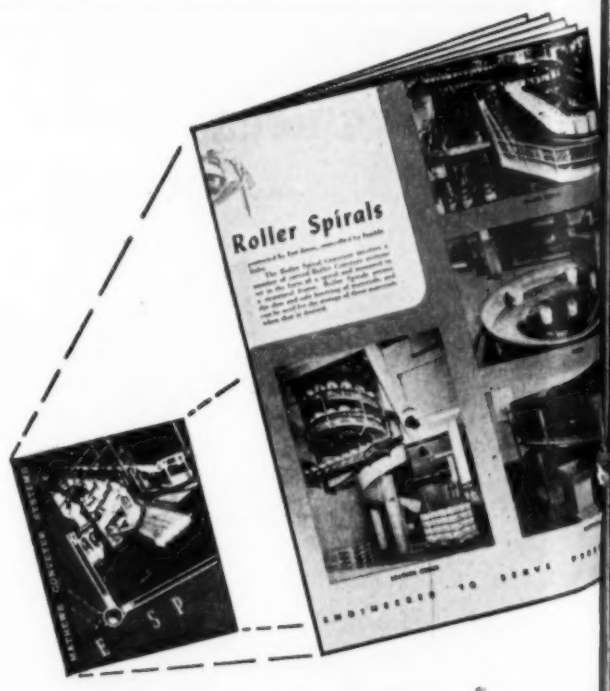
Completely enclosed flights and chain automatically collect, transport and discharge chips, sludge, scale and other types of solid or fibrous material which settle to the bottom of tanks or hoppers. System eliminates manual handling methods, conserves manpower and requires little or no maintenance. Available in standard pipe sizes of 3", 4", 6" or 8". Larger sizes available on request. Choice of chains, flights, casings, accessories available, depending on application.

Houdaille Pan Type Conveyors

One-piece, heavy-gauge steel plates, with all-welded hinges, lock together firmly with connecting rod to form perfect pan-type conveyor for chips. Welded hinges, rod connections and side wings, securely interlocked even when chain negotiates sprocket, prevent fall-through of material. Plates perforated for drainage, depending on application.

All Honan-Crane Equipment is Sold on a Performance Guaranteed Basis

For more details circle NED-[illegible] C3 on [illegible]



MATHEWS CONV

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PACIFIC COAST DIVISION
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CANADIAN DIVISION
MATHEWS CONVEYER COMPANY, LTD. . . . .

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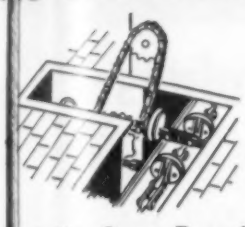
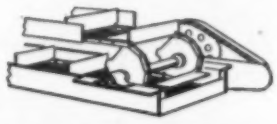
OST handling of loose materials such as
DUST • SCALE • CRACKLINGS • POWDERS — ETC.

aille Automatic Conveyors



Houdaille Open Trough Chain Conveyors

On in Drag Conveyors, installed in open troughs, offer advantages in many operations. Below-floor-level installation, illustrated, removes chips from gear cutters, keeps system from interfering with heavy traffic plant areas . . . offers access to chain and flights at any point of circuit.



Houdaille Slat Type Trough Conveyors

Slat type trough conveyors, operating individually or in sequence, transport material to any given point—can be operated continuously or intermittently as desired. Slats and chain move material in open troughs, return automatically to collection or transfer points.

NEW Comprehensive Catalog . . .

with complete information on all Houdaille conveyors is now available. Write today on company letterhead to . .

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As easy to read as any picture book . . . with few words, but almost a hundred installation pictures of conveyers and conveying systems in action . . . handling materials efficiently for some twenty-five classes of American and Canadian industry.

If you are at all interested in conveyers or conveying systems, you will want to have your own copy of Catalog No. 852. Write for it today.

It's free . . . no charge or obligation.

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CANADIAN DIVISION . . . PORT HOPE, ONTARIO

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WILL YOUR SKID BOXES DO THIS?

Work-O-Matic* Boxes cut waste motion!

Work-O-Matic drop-bottom box and stand units, as shown, *automatically* position and feed parts at work level! Tiring, inefficient bend-and-stretch procedure is eliminated. Moreover, supply delays are avoided because the reservoir tray "bridges the gap" while the empty box is being replaced. Filled boxes are quickly, easily fork-lifted into position.

These and other unique advantages mean up to 50% production gains in job after job. So get *all* the facts! Write to The Union Metal Manufacturing Co., Canton 5, Ohio, for Folder MH-809 and T & M Studies.

*Patent No. 2,445,038. Other patents pending.

UNION METAL
Materials Handling Equipment

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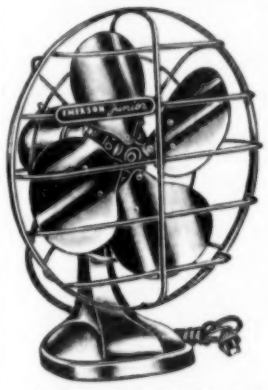
FIBER GLASS WELDING HELMET
will not split, crack or deform

Made of fiber glass with high strength-weight ratio, Saf-I-Weld welding helmets are lightweight, resilient and will not split, crack or deform. Headgear has position hinge which locks helmets in raised or working position and is adjustable to any head size. The one-piece seamless shell is resistant to warping from heat or moisture and meets A.S.A. code for electrical conductivity and strength. Color is light green. Made by **United States Safety Service Co.**, 1329 Oak St., Kansas City, Mo.

▲ For more details circle **NED-525 C3** on enclosed inquiry slip ▲

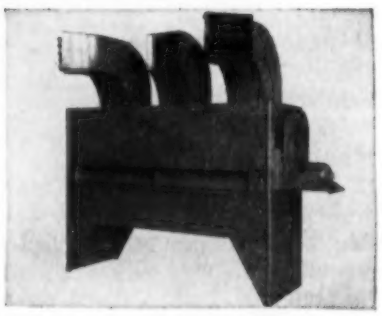
OSCILLATING FANS
made in 10 and 12-in sizes



Quiet, cool-running induction motor, large quiet-pitched blades, oscillation adjustment and hinged desk bracket base for wall mounting are features of Junior line of oscillating fans. Included in line are 10-in. one-speed and 12-in. two-speed fans, both offered in bronze or surf green finish. Made by **Emerson Electric Mfg. Co.**, 8108 Florissant Ave., St. Louis 21, Mo.

▲ For more details circle **NED-526 C3** on enclosed inquiry slip ▲

INDUSTRIAL SPACE HEATERS
designed for large plant use



Delivering 2000 to 25,000 cfm of heated air and available in capacities of 100,000 to 2,500,000 Btu per hour, line of self-contained industrial heaters can be floor, wall or ceiling mounted. They are especially suitable for heating large areas in plants which are difficult to heat by conventional methods. Accessories include filter boxes for built-in mechanical air cleaning and air mixing boxes for controlled mixing of fresh and recirculated air. Made by **Westinghouse Electric Corp.**, Sturtevant Div., Dept. T-535, 200 Readville St., Hyde Park, Boston 36, Mass.

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NEW! Ball Bearing Equipped

BARCO SWING JOINTS

for Loading and Unloading Lines

BARCO'S new, attractively priced, all-steel ball bearing *Swing Joints* are specifically designed to provide for movement and flexibility in metal pipe loading and unloading lines handling gasoline, oil, alcohol, chemicals, and other fluids.

11 DIFFERENT STYLES—Barco offers single swing, double swing, and counterbalance styles to meet every need. Sizes 2", 2½", 3", 4".

SUPERIOR DESIGN—The ball bearings will not fall out when joints are taken apart. Long bearing provides adequate pipe support. Special O-ring seal insures leakproof service over wide temperature range, −40°F to +225°F.

INFORMATION—Send for latest Catalog No. 400 and engineering information. BARCO MFG. COMPANY, 530 D Hough St., Barrington, Ill. (A Chicago Suburb)

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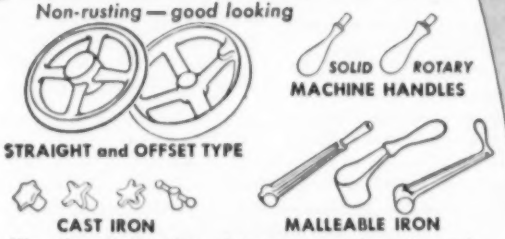
Dependable
MEASURING & CHECKING EQUIPMENT

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog



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Masonite Presdwood® can help you design better products easier. New booklet tells how and where to use these durable, grainless, all-wood panels. Describes, gives engineering data about the 44 types and thicknesses of this versatile hardboard material. Send for your free copy now!

BETTER HARDBOARDS FOR BETTER PRODUCTS
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"Masonite" signifies that Masonite Corporation is the source of the product

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Maybe it all *does* look pretty much the same at first glance. But when a firm has been making wire mesh for 70 years man and boy, there's bound to be a little more to it than meets the eye — a little more know-how in engineering and weaving, a little more quality in the product, a little more service and satisfaction for the user.

JELLIFF WIRE MESH is woven in all ductile metals
JELLIFF WIRE MESH is woven in all commercial weaves
JELLIFF WIRE MESH is woven in widths up to 72 inches
JELLIFF WIRE MESH is economical. Every foot runs true to the specifications.

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JELLIFF WIRE MESH is a quality product and has been for 70 years. You can depend on it.

Write today for full details about JELLIFF WIRE MESH, JELLIFF WIRE MESH PRODUCTS and JELLIFF'S CONSULTATION SERVICE on wire-mesh engineering. Address Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS
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measure tension Accurately!

When you equip your shop or laboratory with Apco Mossberg Torque Screw Drivers, testing or measuring final tension on precision fasteners is quicker...easier...and infinitely more accurate. Here's why.

Apco Torque Drivers are especially designed for maximum convenience, precision performance. Large, easy-to-read dials assure instantaneous measurements. Lighter, stronger construction makes them easy to handle . . . simple to operate. There are no springs or delicate parts to get out of kilter.

What's more, every Apco driver—from the 0 to 6 in. oz. size to the 0 to 24 in. oz. models with large positive and positive-negative dials—comes complete with a standard Stanley tool holder to accomodate interchangeable bits. With an Apco Driver, you can tighten or test torque on *all* types of fasteners—including light plastic screws.

Get the full facts on Apco Mossberg Torque Tools today! Contact your distributor or write direct. Apco Mossberg Co., 161 Lamb Street, Attleboro, Mass., U.S.A.

APCO MOSSBERG CO.
ATTLEBORO, MASS.

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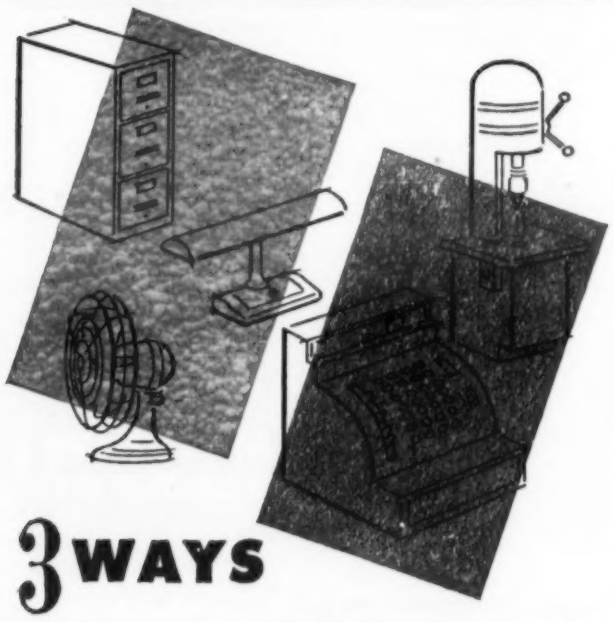

3 WAYS

to glamorize "hard-to-dress-up" products

Here's how to get attractive, textured and third dimensional effects . . . conceal surface blemishes, weld marks, minor imperfections . . . cover defects. A choice of three ways provides a variety of interesting patterns, infinite shadings of tone—

1. **Dimenso® One-Coat "Hammered" Metallic**—Produces a striking, deep-toned, 3-dimension hammered pattern with a single material, in a single coat.
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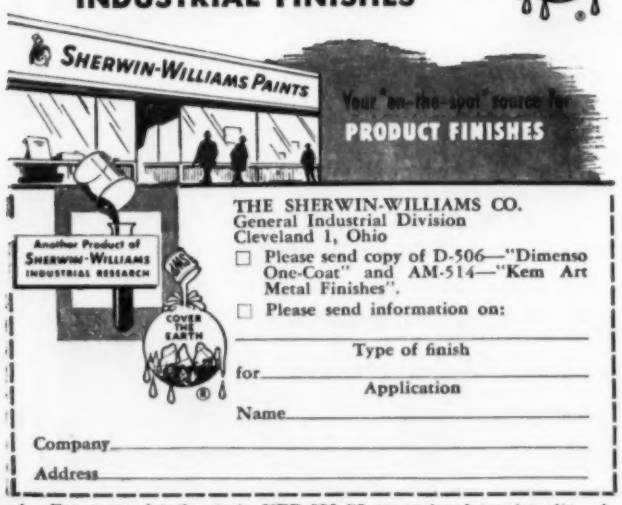
3. **Kem® Art Metal**—Durable and distinctive non-metallic wrinkle finishes. Makes possible highly decorative effects.

Get the facts on these and others of the complete S-W line of quality industrial finishes from your nearby Sherwin-Williams Branch. Consult your classified telephone directory for location. Or mail the coupon below for brochures.

Services of trained industrial finish specialists available in your area through nearest Branch.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES



THE SHERWIN-WILLIAMS CO.
General Industrial Division
Cleveland 1, Ohio

☐ Please send copy of D-506—"Dimenso One-Coat" and AM-514—"Kem Art Metal Finishes".

☐ Please send information on:

_____ Type of finish

for _____ Application

Name _____

Company _____

Address _____

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ELECTRIC TOOL TESTER
6-lb unit detects electrical defects

Electrical defects in electrical hand tools and extension cords are quickly and accurately detected by this Pow-R-Safe tool tester. When buttons are pressed, red and green lights flash to indicate proper equipment ground as safe; open equipment ground as unsafe; power ground as unsafe; short circuit as unsafe; tool switch and extension cord as safe, or as unsafe if defective; and whether or not tool is in proper mechanical running condition. Complete tests are performed in less than 10 seconds, and preliminary tests are conducted at 6 v to avoid shock if tool is faulty. Weighing 6 lb, unit is portable for checking tools at point of operation. Made by **Fendall Co.**, 4633 N. Western Ave., Chicago 25, Ill.

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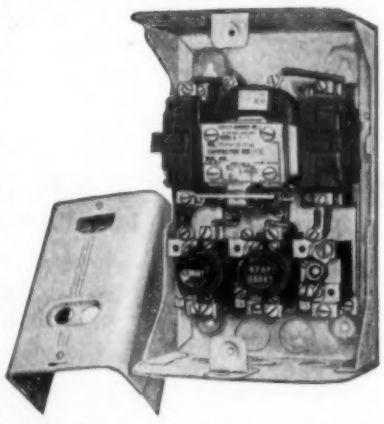
MAGNETIC STARTERS & RELAYS
employ five-unit construction for easy installation and accessibility

Line of magnetic starters, contactors and relays incorporates simple five-unit construction for easy installation and long life. Wrap-around cover pulls off, exposing front and both sides of unit for 180-degree accessibility. Parts consist of two contact blocks, a magnet coil, an armature and a two or three-coil overload relay mounted on steel panel. Each is removable without disturbing other parts.



The three-coil adjustable overload relay allows four ratings from each heater coil by changing its position, providing protection within 3 per cent of full load motor rating. Silver alloy double-break contacts can be removed without tools. Both contact block and overload relay are removed by loosening two screws. Complete panel with all units assembled is removable from metal case after loosening three screws. Terminals are angled to face front and have solderless connectors that grip solid or stranded wires of different size. Made by **Cutler-Hammer, Inc.**, 312 N. Twelfth St., Milwaukee 1, Wis.

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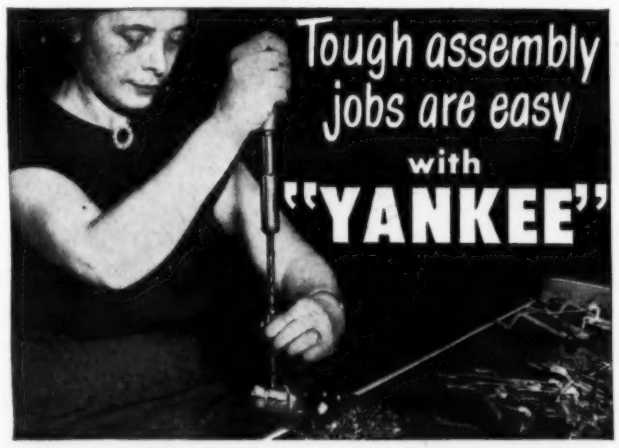

Spiral Ratchet Screw Drivers

With the fast, easy action of "YANKEE" Drivers, tough assembly jobs are a pushover. On thousands of applications like the one pictured above "YANKEE" Drivers speed work, cut costs on every unit—keep worker fatigue at a minimum. Made in two styles—regular and "quick-return". Accessories available.

FREE

See how "YANKEE" Drivers prove their value in speeding assembly on everything from baby strollers to oil burners. Write to North Bros., 205 West Lehigh Ave., Philadelphia 33, Pa.

NORTH BROS. MFG. CO.
Philadelphia 33, Pennsylvania
Division of Stanley Tools

ASK YOUR INDUSTRIAL DISTRIBUTOR TO SHOW YOU THE COMPLETE LINE OF "YANKEE" TIME-SAVING TOOLS.

STANLEY
Reg. U.S. Pat. Off.

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Atkomatic SOLENOID ELECTRIC High Pressure Valves

free Bulletin

FOR REMOTE or AUTOMATIC CONTROL

- Sizes ½, ¾, 1, and 1½ inches.
- Pressures to 3,000 psi.
- Full ported, rugged, dependable.
- No external linkage, operates with only three moving parts, reduces valve maintenance.
- For use with any media not harmful to bronze or stainless steel.
- Easily maintained, all parts accessible without removing valve from line.

Write for more complete information

ATKOMATIC VALVE COMPANY
545-B ABBOTT STREET • INDIANAPOLIS 25, INDIANA

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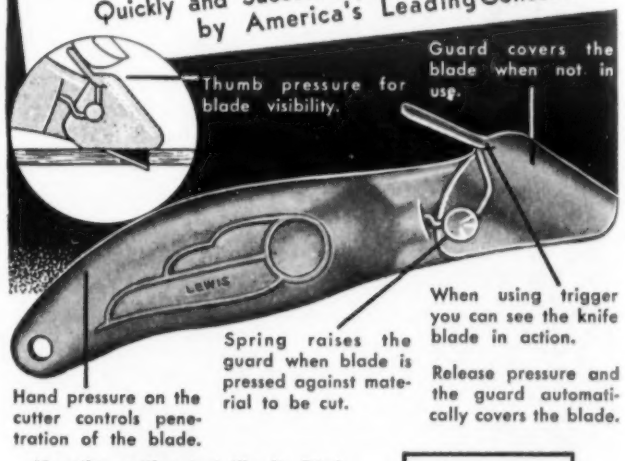
NEW! LEWIS AUTOMATIC TRIGGER ACTION SAFETY KNIFE

Quickly and Successfully Adopted for Use by America's Leading Concerns



No other cutting tool like it. Eliminates the hazards of exposed cutting blades. You must operate it to appreciate its swift and sharp cutting . . . always automatically ready for use. Trigger action gives full blade visibility with safety.

Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

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Work with agar? ink? molten glass?

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VISCOSITY
As Simply, Quickly and Easily as Taking Temperature Readings

WITH A *Brookfield* SYNCHRO-LECTRIC VISCOMETER

Adaptable to any problem from less than one to 32,000,000 centipoises. Send for illustrated catalog.

Just a flick of a switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, *takes only a minute or two.*

Available in a variety of models suitable for extremely accurate work with both Newtonian and non-Newtonian materials, Brookfield Viscometers are portable and plug in any A.C. outlet. *Write today.*

User in Cleveland, Ohio, reports: "Because of its portability, wide range of application, and ease of cleaning, our Brookfield Viscometer has saved us many times its cost in controlling the quality of our products."

Write Dept. O., Stoughton, Mass.

BROOKFIELD ENGINEERING LABORATORIES, INC.

▲ For more details circle **NED-542 C3** on enclosed inquiry slip ▲

These compact, standardized, right angle drives meet most industrial requirements. They have solved many power transmission problems—particularly in applications where space is restricted.

ANGLgears fit into the palm of your hand yet are rated at ⅙ hp or 1 hp at 1800 rpm. Both models are supplied with 2 or 3 way extensions, have antifriction bearings and hardened bevel gears, and are lubricated for life. Write for literature and the name of your nearest ANGLgear distributor.

ANGLgears are sold exclusively through industrial distributors

AIRBORNE
ACCESSORIES CORPORATION
1414 Chestnut Avenue, Hillside 5, New Jersey

For more details circle **NED-543 C3** on enclosed inquiry slip

Peerless Model C Hoists are built for hard use

Peerless Hoists are designed to withstand hard use; to give long, trouble-free service; to require minimum maintenance and repair; to provide maximum safety.

They feature steel from hook to hook: heat treated for gears, hand and load chains; rolled for frames; drop forged for hooks and swivels; pressed for hand wheels.

For a spur geared hoist that provides a lifetime of service—at no premium cost—buy Peerless Model C. Look in the local classified telephone directory under "Hoists" for the name of your local Harrington distributor or write us.

HARRINGTON PEERLESS HOISTS
THE HARRINGTON CO., 1650 W. Callowhill St., Phila. 30, Pa.
Makers of Hoists Since 1876

For more details circle **NED-544 C3** on enclosed inquiry slip

Can our product help you improve your product?

This is **INNER-SEAL.** It's extremely durable, extremely effective . . . with many features that eliminate sealing problems in the manufacturing of countless products.

Inner-Seal's bead is of *live sponge rubber* which compresses under pressure, then springs back into shape. Its flange is of *woven spring wire,* tough but flexible enough to fit snugly around corners. Its coating is of *waterproof neoprene* . . . designed for sub-zero or tropical temperatures, sunlight, humidity, grease, oil or abrasion. Available in various dimensions. Standard Inner-Seal in many colors . . . heavy-duty "dumb-bell" type in black . . . special types can be made to order.

Although Inner-Seal is most widely known in the refrigeration, railway, shipping and automotive fields, it's continually finding many new applications. Maybe *you* have one . . . maybe we can help!

FREE SAMPLES and complete information. *Write today.*

Bridgeport INNER-SEAL *Live Rubber* WEATHER STRIPPING

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

For more details circle **NED-545 C3** on enclosed inquiry slip

ELECTRIC PLANT
air cooled and gasoline powered

Vacuum cooling system employing centrifugal blower which draws cold air through generator and over engine is incorporated in model CW electric generating plant. Heated air is discharged through 8 x 12 in. side vent. Capacities are 5000 and 10,000 w. Plants require 1 cu yd of space and are small and light enough to meet mobile and portable needs. Gasoline engines are twin cylinder, horizontally opposed, four-cycle type of 13 and 20 hp, depending on unit's rating. Other features include impulse-coupled magneto system for manual starting without batteries of when batteries fail; Stellite exhaust valves, seats, ports and guides and suppression system that eliminates radio interference. Made by **D. W. Onan & Sons Inc.,** 2516 University Ave. S. E., Minneapolis 14, Minn.

For more details circle **NED-546 C3** on enclosed inquiry slip

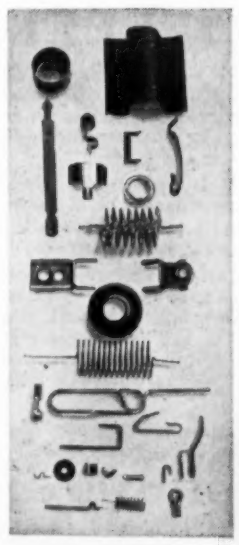
HORIZONTAL COMPARATOR
has four magnification ranges for inside and outside dimensions

Constant pressure is applied to the sides of the workpiece by each contact at every point of measurement by this horizontal master comparator for inside and outside dimensions. Pressure is exactly the same for each part measured. All amplification is by an electronic circuit. The operator has a selection of four magnifications: 500 to 1, 1500 to 1, 5000 to 1 and 15,000 to 1, all on the same meter.

The instrument has good repetitive accuracy, and the operator only needs to observe such common sense precautions as constant temperature, cleanliness and correct operating procedure to obtain repeat readings and detect dimensional variations to plus or minus 0.000001-in. Capacity ranges for each set of contact for inside measurement are 0.125 to 0.240, 0.240 to 0.365, 0.365 to 0.825 and 0.825 to 10.000 in. For outside dimensions the range is from 0.000 to 9.000 in. Made by **Federal Products Corp.,** 1118NR1 Eddy St., Providence 1, R. I.

For more details circle **NED-547 C3** on enclosed inquiry slip

Priced Right! WIRE FORMS & *Metal Stampings*



High-speed, quality production with custom-made precision. Wire formed to any shape for every need.

IMMEDIATE CAPACITY FOR DEFENSE SUB-CONTRACTS

STRAIGHTENING & CUTTING
Perfect straight lengths to 12 ft.
.0015 to .125 diameter

WIRE FORMS
.0015 to .125 diameter

SMALL METAL STAMPINGS
.0025 to .035 thickness
.062 to 3 inches wide

Specializing in Production of Parts for Electronic, Cathode Ray Tubes and Transistors

Write for illustrated folder. Send Blueprints or Samples for Estimate.

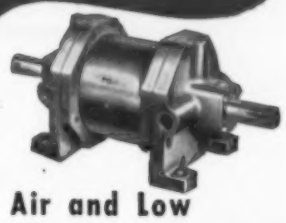
ART WIRE and STAMPING COMPANY
15 BOYDEN PLACE
NEWARK 2, N. J.

For more details circle **NED-548 C3** on enclosed inquiry slip

GET THESE FEATURES IN ALL YOUR FUTURE *CYLINDERS*

Hydraulic High Pressure

- ★ Centrifugally Cast Cylinder Bodies
- ★ Cast Steel or Semi-Steel End Caps
- ★ Cast Iron Piston with Automotive Type Rings
- ★ Leakproof Packing, "O" Rings in each end cap
- ★ Adjustable Port Location
- ★ Fixed Cushions Standard Construction — Adjustable Cushions Optional



Air and Low Pressure Hydraulic

- ★ Compact — No Tie Rods
- ★ Extra heavy walls of selected tubing
- ★ Metal to metal assembly preloads piston cups
- ★ Automatic rod packing requires no take-up. Seals under pressure
- ★ Aluminum alloy piston with steel cup retainer
- ★ Extra long rod guide

HYDRO-LINE CYLINDERS CONFORM TO J. I. C. STANDARDS

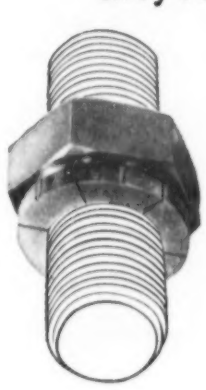
➔ *FREE Additional Data*

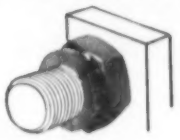
covering additional construction and performance features are included in this catalog. Write for your copy today. Ask for bulletin 350.

Hydro-Line
HYDRO-LINE MFG. CO.
701 19th St.
ROCKFORD, ILLINOIS

For more details circle **NED-549 C3** on enclosed inquiry slip

they're SELF-LOCKING





IN ANY POSITION

on a threaded member

FLEXLOCS stay put in any position on a bolt or stud the moment the locking threads are fully engaged; they do not have to be seated. And FLEXLOCS stay tight, no matter how severe the vibration; are one piece, all metal; can be used repeatedly. One nut covers a temperature range up to 550° F. See your local industrial distributor for literature and samples or write SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

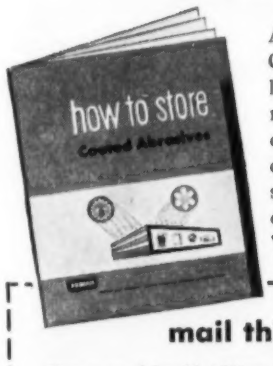
FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

For more details circle **NED-550 C3** on enclosed inquiry slip

Stop wasting money!

Protect your investment in coated abrasives



A new booklet from Armour's Coated Abrasives Division tells you how to stop losses—in time and money—from improperly stored coated abrasives. Clogging, filling, cracking, loss of grains—these are some of the things proper storage can prevent. Send for free copy of "How to Store Coated Abrasives."

mail this coupon today

Please send booklet "How to Store Coated Abrasives."

Name_____
Company_____
Address_____
City_____ Zone____ State____

ARMOUR *Coated Abrasives*

Armour and Company • North Benton Road • Alliance, Ohio

For more details circle **NED-551 C3** on enclosed inquiry slip

Clean GLASSWARE fast
with the FISHER
LABORATORY GLASSWARE WASHER

- Easy-to-Use
- Saves Time and Money
- Saves Labor
- Eliminates Drudgery
- Reduces Breakage
- Meets Every Laboratory Need

TWO MODELS AVAILABLE!
1. Steam-Heated
2. Electrically-Heated

SEND FOR Free BOOKLET

FISHER SCIENTIFIC
717 Forbes St., Pittsburgh 19, Pa.
Complete Laboratory Supply Stocks at:
PITTSBURGH NEW YORK ST. LOUIS
WASHINGTON MONTREAL TORONTO

▲ For more details circle NED-552 C3 on enclosed inquiry slip ▲

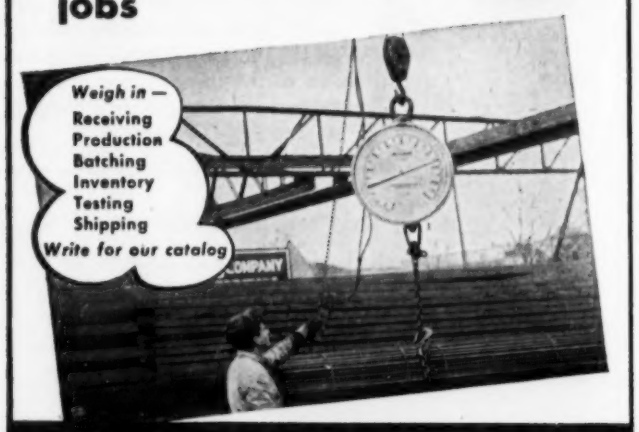
How much do you weigh?

Not you, but your products! Do you weigh in receiving, at production stages, etc. to protect your operation against overcharges, losses, miscalculations? HYDROSCALE, the hydraulic crane scale, makes it practical to check whenever and wherever you should, weighs on the spot, eliminates weighing stations and man power and equipment tie-ups.

36 MODELS, 500 to 200,000 LBS.

HYDROSCALE

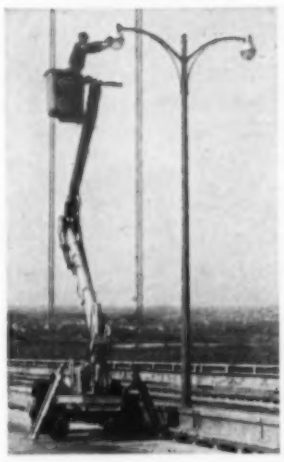
reduces the effort and expense associated with routine weighing jobs



HYDROWAY SCALES, INC.
20614 W. 8 Mile Rd., P.O. Box 4754, Detroit 19, Mich.

▲ For more details circle NED-553 C3 on enclosed inquiry slip ▲

BOOM TYPE LIFT
for one or two men in crow's nests



Rotatable articulated boom of the Sky Lift is designed to accommodate one or two crow's nests which carry personnel for performing operations at considerable heights. Boom is controlled from either the crow's nest or at ground level for elevation, extension and rotation. Mounted on a Pneumatractor, which supplies the air for its operation as well as for operating drills, grinders, spray equipment, etc., the lift has a capacity of 500 lb. Working reach for the average man is 28 ft from the center of the turret, or 37 ft from the ground. Rotation is 370 degrees. An air hose is provided inside the boom. Made by **Schramm Inc.**, Dept. NED, West Chester, Pa.

▲ For more details circle NED-554 C3 on enclosed inquiry slip ▲

LABORATORY SAMPLE SPINNER
2-in. diameter pan rotates 20 rpm

Preparation of radio-laboratory samples is speeded up by model PM-1 sample spinner, consisting of constant speed turntable which rotates 2-in. diameter sample pan at 20 rpm. Unit measures 8½ x 6¼ x 2 in. and is finished in gray hammertone baked enamel. Sample material is spread evenly on rotating pan with a pipette or syringe. Sample drying is facilitated by air ring attachment PM-2 which is adjusted over pan so that air or gas is directed downward and across sample from thin slot running around ring's inner periphery. An infrared lamp attachment PM-3 is also available to speed drying operation. Made by **Nuclear Instrument & Chemical Corp.**, Dept. NED, 229 W. Erie St., Chicago 7, Ill.

▲ For more details circle NED-555 C3 on enclosed inquiry slip ▲

DO YOU KNOW? New ways to stop corrosion and cut costs are detailed in 16-mm sound-color motion picture "The Captain's Idea." Employing lighthearted fast-moving boy-gets-girl story, film shows products and techniques being used to minimize corrosion in all types of industrial, commercial and domestic fields and equipment. Full information is available from Rust-Oleum Corp., 2425 Oakton St., Evanston, Ill.

▲ For more details circle NED-556 C3 on enclosed inquiry slip ▲

22" Table Top
•
Mounts in Any Position
•
Electrically Controlled
•
Positive Locking

AIR POWERED
DIAL FEED

Model BRET-22 Rotary Feed Table is a heavy duty air-powered unit for dial feeding work pieces to drilling machines, tappers, reamers, press rams, etc.

Powered by a 3⅝" Bellows Air Motor, the standard 22" diameter table top will position loads up to 1000 lbs. quickly and accurately.

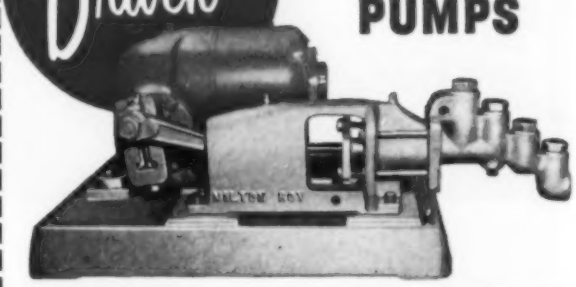
At each station, the table top comes to a stop gently, without abrupt impact, and is locked into position by a 1¼" bore air cylinder. The unit is easily synchronized electrically to other machine operations.

Write for Literature today! Address Dept. NED-353.

The Bellows Co.
AKRON 9, OHIO
690A

▲ For more details circle NED-557 C3 on enclosed inquiry slip ▲

Motor Driven CONTROLLED VOLUME PUMPS



Milton Roy Motor-Driven Controlled Volume Pumps, like the one illustrated, are the reciprocating, positive displacement type, designed for precise pumping at either high or low pressures.

CAPACITIES: from 3 milliliters per hour to 50 gallons a minute against pressures to 20,000 psi.

APPLICATIONS: These pumps are used in industry as single or multiple units for *blending, formulating, continuous processing, chemical feed systems, automatic pH control — anywhere precise pumping of liquids in controlled volume is required.* Difficult-to-pump materials? Milton Roy Motor-Driven Controlled Volume Pumps easily handle tars, sludges, slurries, solids in suspension. The non-clogging, self-cleaning step-valve is standard equipment.

For full details, write for Bulletin No. 251.

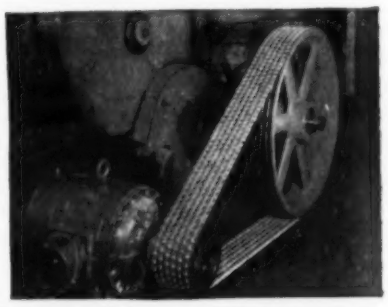
MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

▲ For more details circle NED-558 C3 on enclosed inquiry slip ▲

What do you do when your v-belts get loose or break?

1. *Leave the drive alone* . . . get more slippage, wasted power, excessive belt wear, uneven sheave wear and less production.
2. *Slide the motor back* . . . tight belts get too tight, life of belts and bearings is reduced.
3. *Install a new set of belts* . . . discarded belts mean wasted money.
4. Use VEELOS . . . the Adjustable V-Belt

Link construction permits quick installation. Easy adjustability provides controlled tension on each belt and eliminates loafers.



VEELOS THE LINK V-BELT

Write for free copy of Veelos Data Book. It gives full facts on Veelos—the belt that saves on operating and inventory costs.

MANHEIM MANUFACTURING & BELTING CO.
650 Manheim Street, Manheim, Pa.
Adjustable to Any Length • Adaptable to Any Drive

▲ For more details circle NED-559 C3 on enclosed inquiry slip ▲

FREE TRIAL SHOWS HOW!

SHAKEPROOF
T. M. REG. U. S. PAT. OFF.
"SPEED-NUTS*"
SAVE TIME . . . REDUCE COSTS!

Designed to clip quickly and easily in place, SHAKEPROOF "SPEED NUTS" eliminate costly riveting, staking or welding operations. Light weight and easy handling speeds assembly.

SEND FOR FREE TEST KIT NOW!

*T. M. REG. U. S. PAT. OFF. BY TINNERMAN PRODUCTS, INC.

SHAKEPROOF inc.
"Fastening Headquarters"
TRADE MARK
A DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Avenue, Chicago 39, Illinois

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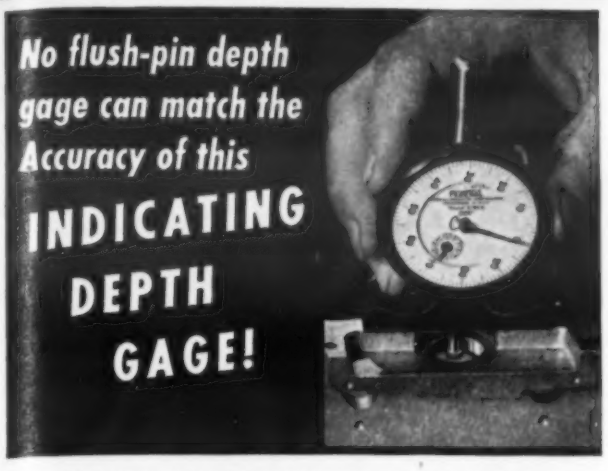


FEDERAL INDICATING DEPTH GAGES provide the positive, accurate, and convenient means of inspecting depths of holes, slots, and other recesses. Available for general or production inspection, with various contact points and special bases to suit the particular needs of the user. Send for our catalog showing the most complete line of Dial Indicators and Indicating Gages. FEDERAL PRODUCTS CORP., 1173 Eddy St., Providence 1, Rhode Island.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively

▲ For more details circle NED-561 C3 on enclosed inquiry slip ▲

This Haul Beats All of Madame's Jewels ...'cause

PROTO means PROfessional TOols!

You get true *professional* quality in PROTO tools, because they are designed and built to meet the exacting requirements of tool experts. Modern user-tested designs, PROTO-specified alloy steels, proper forging and heat treating, and extreme care in all manufacturing steps result in tools that are extra strong, accurate, easy to handle and long-lived. Make your PROTO dealer's store your *professional tool* headquarters. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2275P Santa Fe Ave., Los Angeles 54, Calif.

The PROTO Line Includes Wrenches, Pliers, Screwdrivers, Punches, Chisels, Sockets & Handles and Many Others.

Eastern Factory—Jamestown, N.Y.

5281

PROTO TOOLS LOS ANGELES

▲ For more details circle NED-562 C3 on enclosed inquiry slip ▲

Engineered for use on transformer vaults, weatherproof rooms, marine bulkheads, test rooms and similar applications, this new insulated door-and-frame unit is available in a range of sizes to meet every individual requirement. It can be furnished with round or square corners on door or frame.

Positive seal is assured by special neoprene rubber gasketing which is readily adjusted or replaced. Standard Overbeke-Kain closures are all-welded steel construction. Stainless steel, aluminum or other non-corrosive materials are also available. Hardware is supplied to user's specifications.

Write for Bulletin No. 784 for complete information.

the Overbeke-Kain company

986-OK

20979 AURORA RD....BEDFORD, OHIO

▲ For more details circle NED-563 C3 on enclosed inquiry slip ▲

MASONRY DRILL
features fast dust removal

Continuous drilling of concrete, stone, brick and similar masonry materials, as well as copper, brass and other soft metals is possible with Hi-Twist masonry drill. Combination of oval flutes, narrow lands and fast spiral carries dust up and out of hole as fast as it forms. Minimum pressure is thus required, and drilling can continue to desired depth without removing drill to clean hole. Drill is tough alloy steel and has Carboloy tip which resists dulling. Sizes range from 11/64 to 1 in. for spiral fluted drills and 1⅛ to 1½ in. for straight fluted types. Drills are individually packed in plastic tubes or in roll kits of three and four sizes. Made by **Holub Industries, Inc.**, 411 DeKalb Ave., Sycamore, Ill.

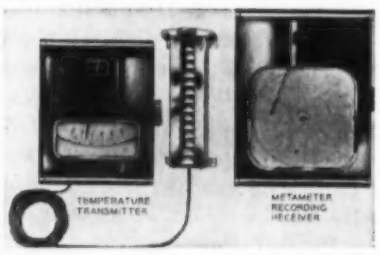
▲ For more details circle NED-564 C3 on enclosed inquiry slip ▲

COLD TREATMENT UNITS
range is —50° to —200° F or lower

Line of units for cold treatment of metals have ranges from −50° to −200° F or lower. Applications include increasing cutting tool life by as much as 500 per cent, minimizing distortion and cracking resulting from grinding, and permanently stabilizing dimensions of precision parts, gages and tools. Tests show units can be used to improve expansion fitting, salvage out-of-size dies, increase hardness and lengthen life of carburized alloy gear steels, blanking and forming dies and plastic molding dies. Made by **Bowser Technical Refrigeration**, Division St., Terryville, Conn.

▲ For more details circle NED-565 C3 on enclosed inquiry slip ▲

REMOTE THERMOMETER
recorder is at observation site



Remote readings of atmospheric temperature can be taken at distances up to 100 miles by the Metameter Telemeter. Temperatures are measured at the remote point and the readings are transmitted over a pair of telephone wires to a recording-receiving instrument at the observation site. Developed by **Bristol Co.**, 30 Bristol Rd., Waterbury 20, Conn.

▲ For more details circle NED-566 C3 on enclosed inquiry slip ▲

FOR EFFECTIVE SPRAYING AT LOWER COST

remember final control is the SPRAY NOZZLE you use!

In design . . . choose the Spray Nozzles that give you proper performance, with exact spray pattern, impact, spray angle and capacity. In application . . . be sure the nozzles as supplied are produced to close tolerances. Metallurgically, make certain the spray nozzles fit your use.

With Spraying Systems you can be sure of spray nozzles to meet all three requirements. *Let Spraying Systems Co. recommend Spray Nozzles to meet your needs best.*

YOUR GUIDE TO SPRAY NOZZLE SELECTION
Spraying Systems Co. Catalog No. 22 . . . 32 pages, with complete performance data. Also write for Catalog 23 . . . Pneumatic Atomizing Nozzles.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

FOR EFFICIENT SPRAYING MAKE SURE THE NOZZLE IS RIGHT

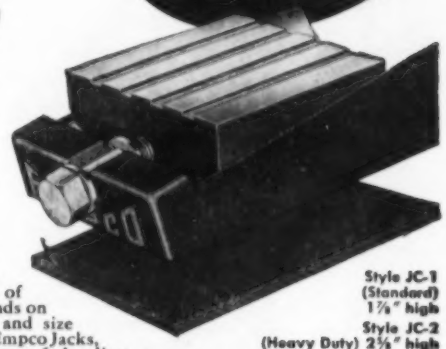
▲ For more details circle NED-567 C3 on enclosed inquiry slip ▲

QUICK, ACCURATE MACHINE LEVELING

WITH VIBRATION ABSORBING MOUNTING PADS

Empco JACK

- *Provides Accurate Adjustment*
- *Reduces Vibration and Noise*
- *Lower and Sturdier*
- *Self-Aligning*
- *Two-Way Control*
- *Smooth Slipways*



Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

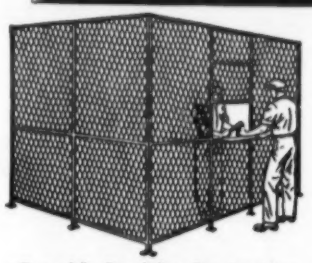
Style JC-1 (Standard) 1⅞" high
Style JC-2 (Heavy Duty) 2⅝" high

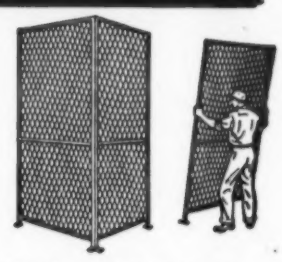
EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

▲ For more details circle NED-568 C3 on enclosed inquiry slip ▲

Protect TOOLS AND EQUIPMENT WITH ACORN WIRE MESH PARTITIONS





•Provide Positive Protection

Acorn Wire Mesh Partitions, by enclosing tool cribs and stock rooms, prevent tool and parts pilfering, give tight control of tools, material and personnel in these areas. Divide large open spaces into efficient, separate departments, cut down confusion. Cost much less than solid walls, permit passage of light, air, sound and heat.

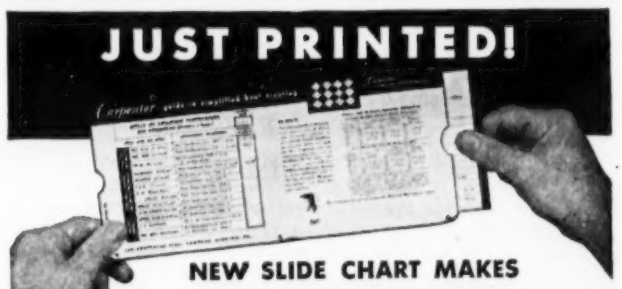
•Simple, Quick to Erect

Made in inexpensive standard panels in two designs. Acorn Wire Mesh Partitions are easy to erect, take down, or move anywhere, with no need to move radiators or lights. Can be added to, or reduced in size. Doors can be moved, and corners made quickly to meet changing needs.

ACORN WIRE and IRON WORKS
5910 S. Lowe Ave., Chicago 21, Ill.

▲ For more details circle NED-569 C3 on enclosed inquiry slip ▲

JUST PRINTED!



NEW SLIDE CHART MAKES HEAT TREATING EASIER

Enables you to find at a glance this heat treating information on Carpenter Matched Tool and Die Steels:

- Forging heat
- Normalizing heat
- Annealing treatment
- Hardening treatment
- Drawing ranges
- Effect of drawing temperature on hardness

Gives new, valuable data on speed of heating with 2 vital rules for better results, tips on quenching in water, brine, oil and air, estimating oxidizing atmospheres, heating time, etc. A "must" to help every toolmaker and heat treater get better results, today. Return coupon now for free, easy-to-use slide chart.

THE CARPENTER STEEL COMPANY
118 W. Bern Street • Reading, Pa.

Please rush to me at no obligation, new Carpenter Guide to *Simplified* Tool Steel Heat Treating.

NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
(PLEASE PRINT)

▲ For more details circle NED-570 C3 on enclosed inquiry slip ▲

IT'S THE WAY

Heat is Distributed

THAT DOES IT . . .

Even, gentle heat *all over* . . . with low BTUs per sq. in. . . . on every side of the tank wall, and bottom, too . . . make Sta-Warm heating tanks the standard of comparison for melting compounds and soft metals.

There is no better way *than the Sta-Warm way* to avoid burning (carbonizing) critical materials. Likewise, the broad distribution of Sta-Warm heat assures *complete* melting of all the tank contents. No cold lumps remain unheated to clog the drain or outlet.

The Sta-Warm basic design is *so flexible* that you can have just the kind of unit your job requires to operate most efficiently.

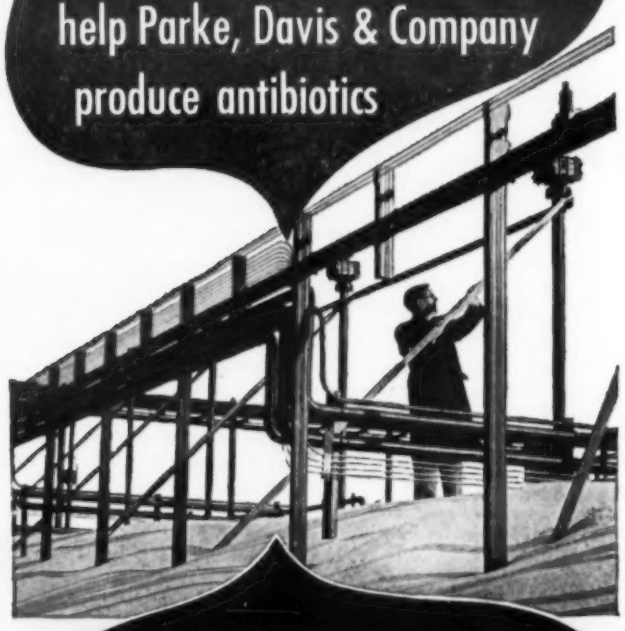
You name your problem. Let Sta-Warm make recommendations by return mail.

If you can tie a string around it, Sta-Warm can heat it for you.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-572 C3 on enclosed inquiry slip

More than **4** miles of **ALCOA** Aluminum Tubing help Parke, Davis & Company produce antibiotics



ALCOA UTILITUBE—*more than four miles of it*—connects outdoor tanks with gages at Parke, Davis & Company's new Chloromycetin plant at Holland, Michigan—the world's only plant producing antibiotics by chemical synthesis. Alcoa's all-purpose aluminum coiled tube is used for instrument line service at this 124,000-gallon tank farm.

Alcoa Utilitube offers savings up to 40% over copper . . . has excellent on-the-job forming and flaring properties. It is available in economical, long lengths up to 1,000 feet or more, depending on size. It stands up well under vibration . . . has high resistance to most industrial atmospheres and to many liquids and gases.

In petroleum service, Alcoa Utilitube will not form sludge or gum . . . will not discolor or contaminate the fluid it carries.

Use Alcoa Utilitube for:

- Air for pneumatic and hydraulic control circuits and brake lines.
- Gasoline and fuel oil for internal combustion engines.
- Lubricating oils for engines and machines.
- Fluids for hydraulic systems.

For complete details, write for the new booklet: *Alcoa Utilitube.*

ALUMINUM COMPANY OF AMERICA
1002-c Alcoa Building, Pittsburgh 19, Pa.

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

For more details circle NED-573 C3 on enclosed inquiry slip

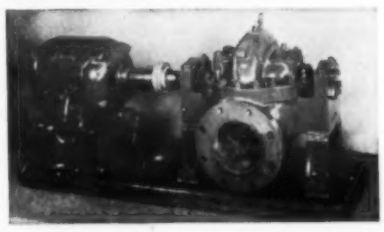
PRECISION INSPECTION UNIT
five fundamental checking tools mounted on 60-in. surface plate

Close dimensional checking of precision machined parts can be carried out by an integrated inspection unit which includes surface plate, bench centers, V-blocks, sine plate and indicator attachment. Also incorporated is a concentricity attachment which permits rapid checking of relative diameters and bores in round or square parts of variable outside diameters. No involved computation is required.

The opposed V-block is horizontally adjustable to accommodate parts up to 50 in. long. All devices are automatically aligned and easily attached, adjusted or removed from the 60-in. surface plate by knurled hand screw. Surface plate is available in 12 or 24-in. width, ground to within 0.001-in. or scraped to within 0.00025-in. Bench centers will take shafts up to 48 in. long and 8 in. diameter, while V-blocks have a 7¼-in. diameter capacity. Optional accessories are also available for special-purpose inspection. Made by **Swanson Tool & Machine Products, Inc.,** 808 E. Eighth St., Erie, Pa.

For more details circle NED-574 C3 on enclosed inquiry slip

CENTRIFUGAL PUMPS
single stage, double suction series has wide interchangeability of parts



Renewable stuffing box bushings, sealed bearing housings, cowl type glands suitable for use with quenching liquids, stainless steel impeller keys and Teflon water seal rings are features of Fig. 3405 single stage, double suction centrifugal pumps. Removal of upper half of split casing permits inspection, maintenance and removal of the entire rotating element without disturbing piping or alignment.

Three different assemblies of shafts and rotating parts, with wide interchangeability of parts in each assembly, make possible 19 different pump sizes in the three groups. In addition, impeller rotation direction is easily changed in the field. Drive can be by electric motor, belt or steam turbine. Impeller is one-piece iron or bronze with all exterior surfaces machined. Mounting dimensions of all pumps within each group are identical. Pumps range in capacity from 200 to 6400 gpm, with heads up to 260 ft. Made by **Goulds Pumps, Inc.,** Dept. NED, Seneca Falls, N. Y.

For more details circle NED-575 C3 on enclosed inquiry slip

WICKWIRE ROPE SLINGS

tough...strong...extra flexible

Wickwire Rope Slings are offered in both braided and conventional types . . . are designed to hitch on to heaviest loads with utmost safety, ease of handling and absolute security of attachments. Where extreme flexibility is required, Wickwire Slings of braided design give definite advantages in non-kinking qualities and in their ability to handle materials of all types and shapes without taking a permanent set.

Let us know your requirements. Our engineers will be pleased to analyze your sling problems and recommend the correct solution.

THE COLORADO FUEL AND IRON CORPORATION – Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION – Los Angeles Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION–Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

For more details circle NED-576 C3 on enclosed inquiry slip

if it's a WITT it's guaranteed

Compare WITT CAN and PAIL features with others on these points . . .

STRAIGHT SIDES—assure extra resistance to rough handling.

DEEP ROLLING CORRUGATIONS—run full length of Can adding further rigidity.

HEAVY GAUGE STEEL—provides battleship ruggedness.

STRUCTURAL STEEL BANDS—protect top and bottom of Can and act as shock absorbers.

HOT DIP GALVANIZING—a hand process after fabrication, insuring heaviest possible rustproofing.

PINCH PROOF HANDLES—for easy handling.

STURDY LID—snug fitting yet easy to remove.

WITT CANS and PAILS are guaranteed to outlast 3 to 5 ordinary CANS. That's your assurance of the highest standards of workmanship and material. WITT CANS and PAILS are designed to last longer . . . constructed to survive the most severe weather, wear, even deliberate abuse. It's no wonder that there are many WITT CANS and PAILS still in excellent condition after five, ten, yes even fifteen and more years of service

WITT CANS and PAILS HAVE THE "RIGHT" ANGLE

Witt Cans

"Originators of the Corrugated Can"

THE WITT CORNICE COMPANY 2124 Winchell Ave., Cincinnati 14, O.

For more details circle NED-577 C3 on enclosed inquiry slip

Fast Motor Service

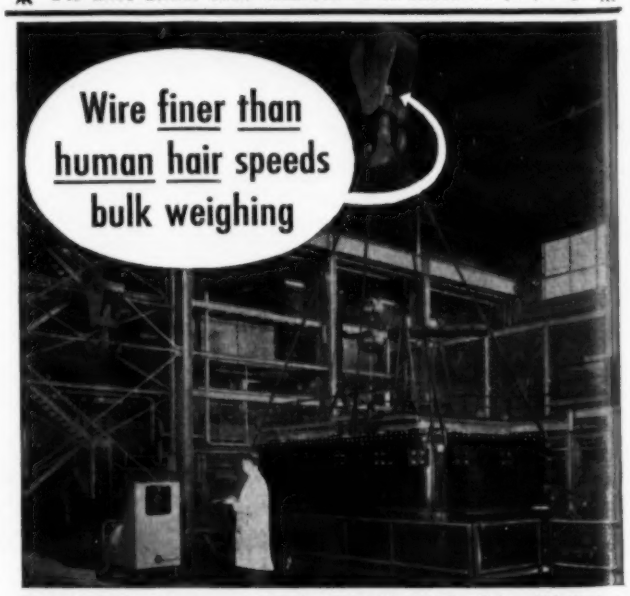
Factory approved motor service in every industrial area from 97 Allis-Chalmers Certified Service Shops

ALLIS-CHALMERS CERTIFIED SERVICE SHOPS are independent service shops which meet rigid standards for ability, experience, equipment and business integrity. They use factory approved methods and parts and do your work promptly at a fair price.

Of course, Allis-Chalmers Certified Service Shops give good service on any electrical equipment, of any make. To find the Certified Service Shops in your area, call your nearby Allis-Chalmers District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3867

ALLIS-CHALMERS

For more details circle NED-578 C3 on enclosed inquiry slip



Built into this 150 ton crane hook is a Baldwin SR-4® Load Cell that speeds and simplifies weighing of bulk materials. As loads vary, strains are transmitted to a compression member inside the Load Cell and in turn to a grid of very fine wire. As length of the wire is changed, resistance changes . . . and weights can be measured with an accuracy, speed and safety impossible with more conventional systems.

If you are interested in crane weighing, batch weighing, or any other type of weighing, you'll find Baldwin Load Cells offer a unique solution. Other SR-4 devices can solve your problems in measuring torque, pressure, explosions, etc.

BALDWIN-LIMA-HAMILTON
Testing Headquarters—Philadelphia 42, Pa.
In Canada: Peacock Bros. Ltd., Montreal, Quebec

For more details circle NED-579 C3 on enclosed inquiry slip

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little*.

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Catalog No. 60-A

GITS BROS. MFG. CO.

1833 S. Kilbourn Ave. • Chicago 23, Ill.

▲ For more details circle **NED-580 C3** on enclosed inquiry slip ▲

Now! A high speed rotary tool that

CUTS ALUMINUM AND MAGNESIUM

faster and without loading

Write for details and prices!

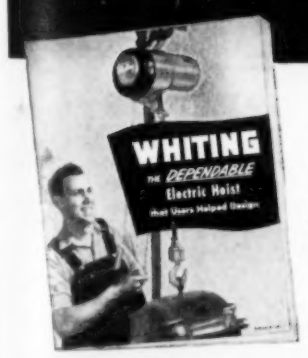
M. A. FORD MFG. CO. INC.

733 West River Street, Davenport, Iowa

▲ For more details circle **NED-581 C3** on enclosed inquiry slip ▲

LIFT at Lowest Cost!

GET THIS BOOKLET FOR FACTS ON THE HOIST THAT WILL SERVE YOU *BEST!*



Read *why* the Whiting Electric Chain Hoist is the *lowest* in operating cost . . . *why* it is the *safest* hoist and the *easiest* to operate. And read about the *exclusive* Whiting Warranty Plan, too. All this information, plus data on models and capacities is contained in Bulletin H-112. Write for a free copy now!

WHITING CORPORATION 15660 Lathrop Ave. • Harvey, Illinois

WHITING ELECTRIC CHAIN HOIST

▲ For more details circle **NED-582 C3** on enclosed inquiry slip ▲

COLOR LIMIT ALARM
operates on differential principle

An alarm is sounded or a visual signal shown when a preset color limit is exceeded with the model 1015A (standard) or 1016A (nonhazardous location) color alarm. This differential type colorimeter utilizes phototubes and an amplifier which actuates the signal device. Overall dimensions are 7 x 6 x 13 in. A continuous flow instrument, it is stable to about 1/10th of a Union color number when used on kerosene under usual line voltage fluctuations. Normal sensitivity exceeds this rating and a further increase is possible. Other models are available for continuous indicating and recording of color. Made by **Hallikainen Instruments,** Dept. A, 1341 Seventh St., Berkeley, Calif.

▲ For more details circle **NED-583 C3** on enclosed inquiry slip ▲

MOBILE WORKSHOP
carries ladder, tools, equipment right to the maintenance job

Everything a maintenance man needs, including ladders, tools, equipment, parts and supplies can be moved right to the job with this welded steel Shopmobile. Unit has towing ring for attachment to industrial truck, while tubular steel handle and retractable caster type front wheel facilitate manual handling. Workshop is supported by heavy duty springs and rides on steel wheels with 6.00 x 16 four-ply tires. Ladder which extends to 24 ft is held rigid by stabilizing jacks and features rigid platform and safety guard rail.

Center bulk loading space has heavy duty checker plate floor. Material trays in horizontal compartments have removable partitions on 3-in. centers. Vertical compartments feature drawers and shelves. On right side of unit are pipe vise and support bracket. Flush type compartment door handles with automotive cylinder locks assure safe storage. Hand brake locks wheels. Made by **Stahl Metal Products, Inc.,** 3498 W. 140 St., Cleveland 11, O.

▲ For more details circle **NED-584 C3** on enclosed inquiry slip ▲

THINKING OF STAINLESS?

THINK OF **ALLMETAL** FOR THE FINEST IN **STAINLESS STEEL FASTENERS**

FOR QUALITY AND DELIVERY

Complete facilities under one roof assures controlled quality and immediate delivery. Standard and "AN" specs. Specials to order.

ALLMETAL, Specialists in Stainless, Produce Stainless Products Exclusively

Write for Catalog L

MANUFACTURERS SINCE 1929

ALLMETAL SCREW PRODUCTS COMPANY, INC.

33 GREENE STREET NEW YORK 13, N. Y.

▲ For more details circle **NED-585 C3** on enclosed inquiry slip ▲

ZALLEA for your EXPANSION PROBLEMS

This Zallea Duo-Equalizing Stainless Steel Expansion Joint is an ideal medium for absorbing expansion and contraction in pipelines due to thermal changes.

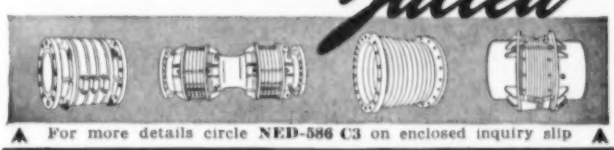
These Zallea products find application in intermittent steam service in long lines for both institutions and industrial plants.

Other Zallea joints are available in either single or double flanged or welded end types in diameters up to thirty feet. Temperatures may vary from sub-zero to 1600° F. and pressures from vacuum to 2000 psi. For further information, write today for bulletin No. 351.

There's no obligation, of course.

Zallea Brothers, 818 Locust Street, Wilmington 99, Delaware.

Zallea



▲ For more details circle **NED-586 C3** on enclosed inquiry slip ▲

NEW SAFETY FOR ALARM CIRCUITS!

An Alarm Silencing Relay
that never forgets

• Add this Honeywell Alarm Silencing Relay to any alarm circuit that notifies operators of incorrect temperature, liquid level, flame failure or other dangerous condition. Then when the alarm sounds, you can turn off the warning horn or bell with complete safety . . . just by pressing the relay's button.

A red light immediately comes on, and remains on, to remind operators that the faulty condition still exists. When normal conditions return, the red light goes out and the alarm circuit is automatically reset.

The Alarm Silencing Relay will protect your valuable equipment against the dangers arising from human forgetfulness. Get the details today from your nearest Honeywell representative . . . he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4529 Wayne Ave., Philadelphia 44, Pa.

• **REFERENCE DATA: Write for Bulletin 8501, "Alarm Silencing Relay," and for Catalog 8305, "Industrial Controls."**

MINNEAPOLIS **Honeywell** BROWN INSTRUMENTS

First in Controls

▲ For more details circle **NED-587 C3** on enclosed inquiry slip ▲

NOW another new development in Micro-Fog lubrication by NORGREN

- BEARINGS
- GEAR CHAMBERS
- SMALL AIR DEVICES

NEW FEATURES

Constant Oil Level... rate of oil feed not affected by oil supply.

Complete Visibility and Control of Oil Feed... no guess work.

Oil Feed Controlled by Air... gives very uniform rate of oil feed.

WRITE, NOW, for COMPLETE DATA

Valves • Filters • Regulators • Lubricators • Hose Assemblies

C. A. Norgren CO. 3405 So. Elati St., Englewood IN COLORFUL COLORADO

Pioneer and Leader in Oil Fog Lubrication for 25 Years

For more details circle NED-588 C3 on enclosed inquiry slip

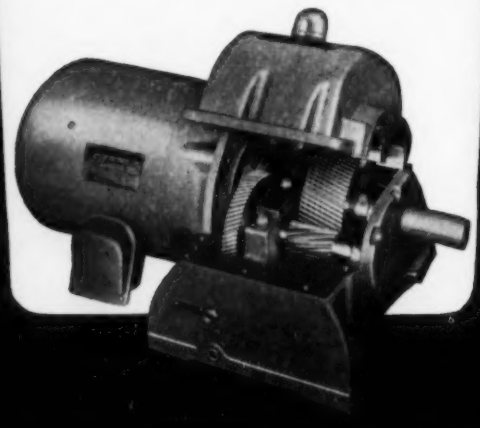
How split-case construction gives added Gearmotor advantages

Just remove a few bolts and you can lift the cover from a Westinghouse Life-Line Gearmotor. This split-case construction assures easy access to working parts—speeds inspection or servicing of both gears and motor. There's no need to drain the oil! Bearing supports are an integral part of the housing, thereby providing permanent alignment of working parts and maximum overhung load capacity.

In addition, Life-Line Gearmotors have precision helical gears, taper-hardened gear teeth, a positive splash lubrication system and the proved Life-Line Motor features, all adding up to a more efficient, more dependable gearmotor.

Become thoroughly familiar with the many advantages of Westinghouse Gearmotors by calling your Westinghouse representative or writing Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

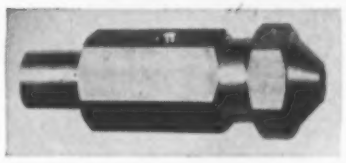
J-07321



YOU CAN BE SURE...IF IT'S Westinghouse

For more details circle NED-589 C3 on enclosed inquiry slip

AUTOMATIC DRAIN VALVE for air compressor installation



Functioning on the vapor ejection principle, the C-1 automatic drain valve for installation on tank or aftercooler of air compressors operates by air pressure from the control or unloader pipe. It acts every time the compressor starts, stops or unloads. Collected water is atomized as it is ejected so that it evaporates, precluding use of drip pans or drain lines. Kits are available to fit all Westinghouse and other makes of air compressors. Made by **Westinghouse Air Brake Co.**, Industrial Products Div., Dept. F. E. B., 1953 Herman Ave., Wilmerding, Pa.

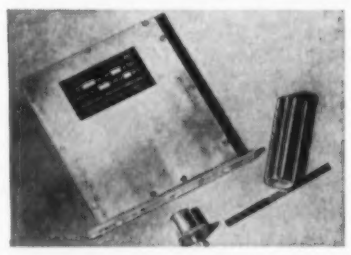
For more details circle NED-590 C3 on enclosed inquiry slip

BUSHING DRIVER positions, drives threaded inserts

Design feature of this bushing driver for driving threaded inserts in aircraft and general industrial operations provides automatic positioning of insert to proper depth below face of casting. A ball bearing pressure plate prevents backing insert out after driving. Standard driver is equipped with ½-in. female square drive for installing threaded inserts 0.010-in. below casting face. Sizes for all inserts commonly in use are available. Made by **Titan Tool Co.**, Dept. X, Main St., Fairview, Pa.

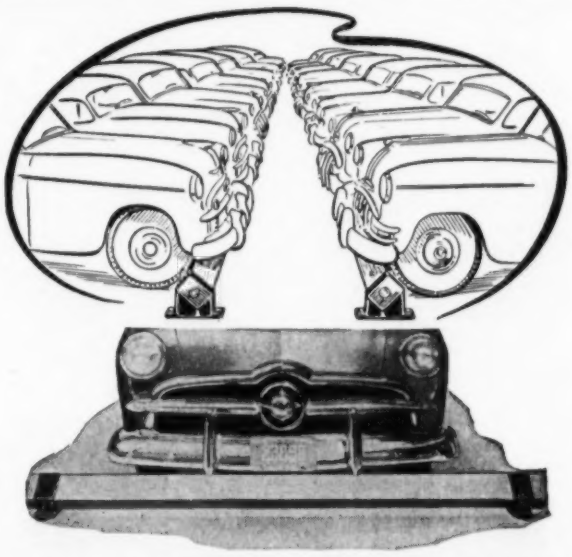
For more details circle NED-591 C3 on enclosed inquiry slip

ULTRASONIC DELAY LINES for electronic computer applications



Available in bandwidths of 12 megacycles or greater, a series of fused quartz ultrasonic delay lines for radar and electronic computer applications features a low ratio of spurious to desired signals. This can be held as low as minus 50 decibels for special requirements. Insertion losses are kept to a minimum, 34 to 50 decibels being characteristic, depending on the terminating impedance necessary. Made by **Andersen Laboratories, Inc.**, 41 Talcott Rd., West Hartford 10, Conn.

For more details circle NED-592 C3 on enclosed inquiry slip



SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire—no shock.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

For more details circle NED-593 C3 on enclosed inquiry slip

Safety Lesson No. 1 COD

"MISSING LINKS"* Repair Chains Better

Do away with danger of opening up under heavy load by specifying Laughlin "Missing Links".

Pressure fitting of matched halves with special dies insures perfect fit, eliminates tendency of loose-fitting links to shear.

Links, not rivets, carry the load. Interlocking lugs grip firmer, bear the weight. Ordinary round lugs fitted into round holes don't have holding power.

"Missing Links" are also supplied in an exclusive pear shaped design in sizes for ⅜" to 1⅛" chain. Free Catalog No. 150 lists full line.

For Safety's Sake . . . Say LAUGHLIN

THE THOMAS LAUGHLIN CO.

*T. M. REG. 319 Fore Street, Portland, Maine

Buy from your local distributor

For more details circle NED-594 C3 on enclosed inquiry slip

you save 50% in TANK HEATING and COOLING with PLATECOIL (REPLACE PIPE COILS)

- You SAVE 50% in tank SPACE
- You SAVE up to 50% in initial COST
- You have 50% LESS WEIGHT to handle
- You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

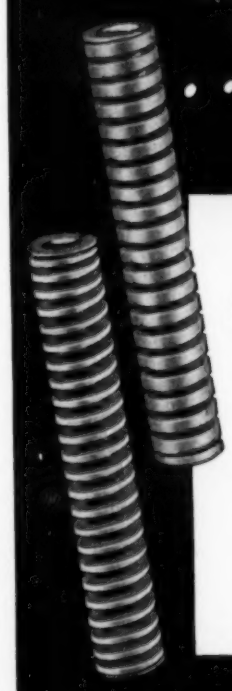
. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL Division KOLD-HOLD MFG. CO. LANSING 4, MICHIGAN

For more details circle NED-595 C3 on enclosed inquiry slip

Simplify Die Design ...Specify DANLY®



DIE SPRINGS

Two complete size ranges . . designed for medium pressure —high deflection or high pressure—medium deflection . . . meet specific die making needs more exactly! Write today for complete information. Ask for the Danly Die Spring Folder.

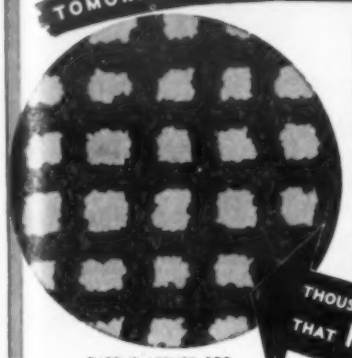
SEND FOR YOUR COPY TODAY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois
PRECISION DIE SETS...TOOL, DIE AND GAGE MAKERS SUPPLIES

For more details circle NED-596 C3 on enclosed inquiry slip

GRITCLOTH

TOMORROW'S SANDING FABRIC TODAY!



USE WET OR DRY
USE BOTH SIDES
FLAT OR FOLDED
By Machine or Hand
NON-CLOGGING
LONG LIFE

THOUSANDS OF SUPER-SHARP EDGES THAT KEEP ON CUTTING

PATENT APPLIED FOR

ANOTHER SPARKLING BAY STATE "FIRST"!

GRITCLOTH gives you MODERN SANDING . . . without the age-old problems of "clogging" and "loading". In GRITCLOTH'S open-mesh design, THE DUST FLOWS THROUGH THE HOLES, and the sharp abrasive teeth KEEP RIGHT ON CUTTING. Actual tests show 10 to 15 times the life of ordinary coated papers.

IT'S NEW IT'S BETTER IT'S BAY STATE

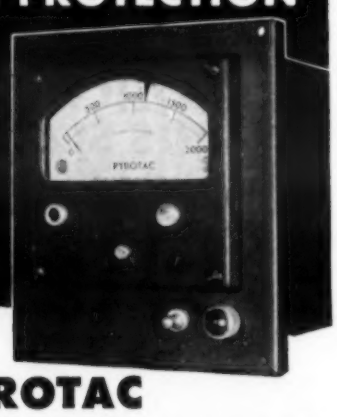
SEND FOR SAMPLE!

BAY STATE

BAY STATE ABRASIVE PRODUCTS CO.
Westboro, Massachusetts, U. S. A.
Branch Offices and Warehouses
Chicago, Cleveland, Detroit, Pittsburgh
Distributors — All principal cities
In Canada: Bay State Abrasive Products Co. (Canada) Ltd., Brantford, Ont.

For more details circle NED-597 C3 on enclosed inquiry slip

AUTOMATIC PROTECTION OR CONTROL for your heating process



...WITH

ALNOR PYROTAC

Here's a simple, low-cost way to obtain *AUTOMATIC PROTECTION* against damage due to excessive temperatures . . . safeguard your investment in heating equipment and materials in process. This precision-built instrument constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the heated circuit at a safe, pre-set temperature. It may also be used as a *CONTROLLER* on a process requiring shutdown upon reaching a final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures safety if couple or extension wires should break.

Ask your Alnor representative for details on this sturdy, precise instrument. You'll find the price of less than a hundred dollars unusual for an instrument of this type. Write for bulletin that contains complete description and wiring diagrams of actual applications. Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-598 C3 on enclosed inquiry slip

BRADY QUIK-LABEL PIPE MARKERS

FAST... POSITIVE IDENTIFICATION

For a few cents per pipe, you can equip your entire plant with Brady QUIK-LABEL Pipe Markers. You can get a uniform system of pipe identification based on A.S.A. Standard A13. Names of materials printed in large black letters on correct A.S.A. background colors — no hand stenciling, painting, or hard to remember codes. Anyone who can read can tell at a glance the pipe contents and direction of flow. Over 235 different markers and direction arrows in stock. Specials made to order.

Brady QUIK-LABELS stick without moistening—applied in a jiffy, Silicone Plastic treated to resist dirt, grime, moisture—for indoor or outdoor service.

Brady Pipe Markers leave no room for doubt . . . or TRAGEDY.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY COMPANY
736 W. Glendale St. • Milwaukee 12, Wis.

For more details circle NED-599 C3 on enclosed inquiry slip

FIRE EXTINGUISHER DECALS
set consists of two decal types

Set of two types of decal transfers for fire extinguisher identification consists of a large 9 x 8 in. decal for placement high on the wall or nearby object above a fire extinguisher for good visibility, and a small 1¾ x 2 in. decal, a miniature of the large one, for application on the extinguisher itself. Three different sets are available, one for each of three standard types of fire extinguishing materials. Identification for storage and use is established through variation of design, color and copy. Made by **Meyercord Co.**, Dept. NE8, 5323 W. Lake St., Chicago 44, Ill.

For more details circle NED-600 C3 on enclosed inquiry slip

PNEUMATIC DRILL
3-lb unit does heavy duty jobs

Contoured pistol grip, trigger throttle and built-in speed regulator combine for easy handling of this PD-304P pneumatic drill for heavy duty operations with maximum power on continuous runs. Drill has built-in oiler, and all moving parts glide on precision ball bearings. It measures 6 13/32 x 2 1/16 x 6½ in. and weighs only 3 lb. Unit comes with ¼-in. Jacobs chuck, key, wrench, hydraulic fitting, ¼ x 8-in. air hose and lubricant. Made by **Mall Tool Co.**, 7725 S. Chicago Ave., Chicago 19, Ill.

For more details circle NED-601 C3 on enclosed inquiry slip

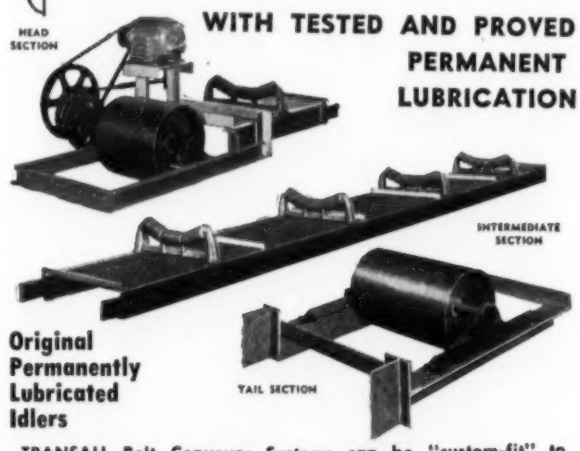
LONG-NOSE HAND TRUCK
for moving barrels, boxes, cases

Of all welded construction, this long-nose shovel hand truck is designed for easy pick-up and moving of barrels, hampers, boxes and cases in factories, warehouses and docks. Steel nose plate is 19 in. wide at base and 13 in. wide at front. The 50-lb truck has two 6-in. diameter wheels. Made by **Palmer-Shile Co.**, 16015 Fullerton St., Detroit 27, Mich.

For more details circle NED-602 C3 on enclosed inquiry slip

PRE-ENGINEERED

WITH TESTED AND PROVED PERMANENT LUBRICATION



Original Permanently Lubricated Idlers

TRANSALL Belt Conveyor Systems can be "custom-fit" to your requirements by using our "pre-engineered" head, intermediate and tail sections. Easy to assemble, take down, shorten or lengthen. TRANSALL Systems save you money on initial costs because they are pre-engineered . . . reduce maintenance costs because lubrication costs are eliminated. TRANSALL is the only permanently lubricated heavy duty Belt Idler tested and proven by years of service. Investigate these and other "plus-features" of TRANSALL Belt Conveyor Systems. Write TRANSALL, Inc., 120 N. 11th Street, Birmingham 4, Alabama.

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

For more details circle NED-603 C3 on enclosed inquiry slip

THE SCHRAMM Pneumatractor

CAN

PUSH — front end loader with bucket (illustrated), or angle dozer blade, rotary sweeper, snow plows, etc.

PULL — anything a wheel tractor will, with either front or rear winch.

POWER — any hydraulically, mechanically and pneumatically operated equipment such as back hoe (illustrated), post hole digger, scaffold boom, etc.

PROVIDE AIR — for any pneumatic tools that can be operated from a 105 C.F.M. AIR COMPRESSOR.

SCHRAMM INC.
The Compressor People • WEST CHESTER • PENNSYLVANIA

SCHRAMM AIR COMPRESSORS

For more details circle NED-604 C3 on enclosed inquiry slip

This Picture IS WORTH 1000 WORDS! Show

to Your Drivers

WHEN IT COMES TO TRAINING industrial truck operators, one picture is worth a thousand words. Clark's new "Safety Saves" movie is the only driver safety-training film in the materials handling field. It's a 30 minute sound movie, filmed entirely "on-the-job", and it's available to you on a loan basis.

1. "It's fun to watch the scenery; it's *safer* to watch the road."
2. "All right then . . . you won't make that mistake again!"

You (and your drivers) will see hair-raising examples of how *not* to handle a fork truck, as demonstrated by Willie the Cowboy. After you've seen Willie's way, you'll see the safe, correct way to drive and take care of a truck. To help cut accidents and improve driver performance, *all* your drivers should see "Safety Saves". Use the coupon to indicate when you want it—the only cost to you is return postage.

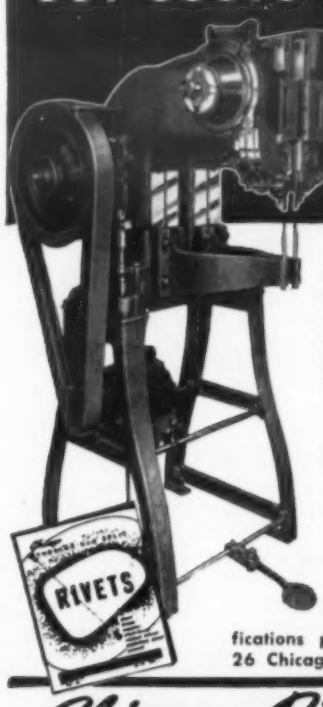
CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION
CLARK EQUIPMENT COMPANY • Battle Creek 21, Mich.

Send "Safety Saves": Date wanted_____
Alternate dates_____
Name_____
Firm Name_____
Street_____
City_____ Zone____ State____

For more details circle NED-605 C3 on enclosed inquiry slip

CUT COSTS . . . FASTEN "ON THE DOUBLE" with the Chicago "214" DOUBLE RIVET SETTER



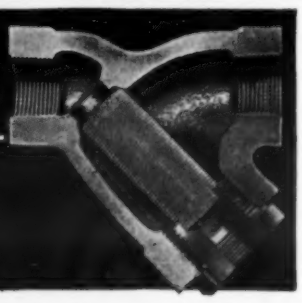
The "214" automatically feeds, inserts and clinches two rivets at a time . . . with speed that may mean a big saving in your fastening costs. 14" throat makes large assemblies easy to handle. For up to 9/64" diameter steel rivets—lengths to 7/8". Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility. Ask us how the "214" can help you cut costs. Send a sample of problem assembly (or blue print) for Free fastening analysis.

FREE CATALOG contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

For more details circle NED-608 C3 on enclosed inquiry slip

It says "STOP" to Solids— "GO" to Fluids



Here is a BETTER Strainer to "police your pipelines"

- FIRST—*The Screen*, a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.
- SECOND—*Finish*. Cadmium plated for protection against corrosion and for better appearance.
- THIRD—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.
- THOUSANDS IN SERVICE—Sold by over 150 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.

See your supply house or write for Bulletin S-201.

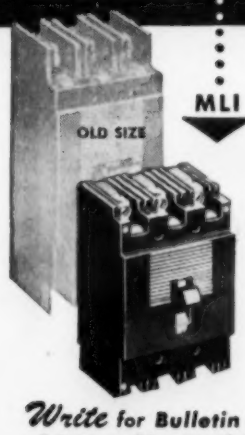
YARNALL-WARING COMPANY
131 Mermaid Ave., PHILADELPHIA 18, PA.

YARWAY STRAINERS

For more details circle NED-609 C3 on enclosed inquiry slip

small

100 Ampere Frame • 600 Volt
CIRCUIT BREAKER



MLI This compact breaker has all the construction features of the larger 100, 225 and 600 ampere frames—yet it's 50% smaller.

Available in 15, 20, 30, 40, 50, 70 and 100 amperes at 600 volts.

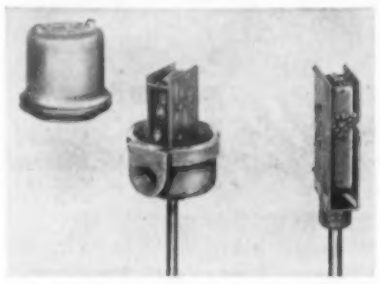
Write for Bulletin 600 for complete description of Square D's complete line of THERMAL-(Coilless) MAGNETIC Circuit Breakers . . . Address Square D Company, 6060 Rivard St., Detroit 11, Michigan.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-610 C3 on enclosed inquiry slip

TEMPERATURE CONTROL differential expansion type has range from −300° to 300° F

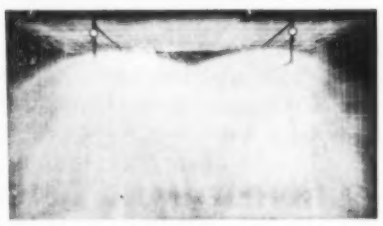


High expanding brass outer tube and low expanding inner member constitute sensing element of this temperature control which operates between limits of −300° and 300° F. Relative expansion motions of these sensing components caused by temperature changes is multiplied by lever which actuates a Micro Switch. Temperature settings are changed by means of a dial graduated 1 to 10, together with an adjusting screw with pointer.

Standard tube lengths are 5, 10 and 15 in. Operating differential of plus or minus 0.5° F can be obtained. Tube diameters are ⅜ and ¼-in. OD, and fittings for mounting instrument are available with ⅜-in. OD tubes. Switch is rated 15 amp, 125-250-460 v, 60 cycles ac and can have normally-closed, normally-open or single-pole double-throw action. Made by **Burling Instrument Co.**, 3A Vose Ave., South Orange, N. J.

For more details circle NED-611 C3 on enclosed inquiry slip

AUTOMATIC FIRE SPRINKLERS assure effective distribution pattern and water break-up

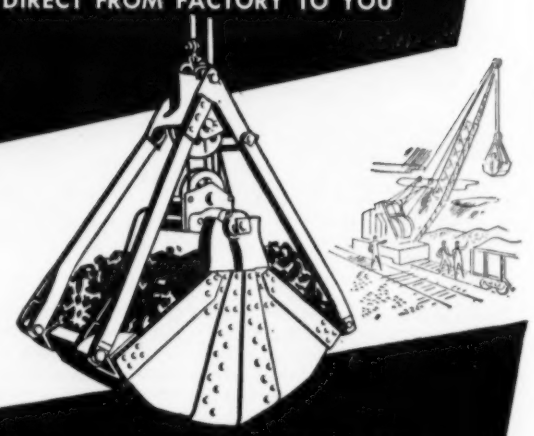


After extensive testing of existing types of overhead sprinklers for fire protection, it was found that best results were obtainable with an effective pattern of distribution and break-up of water at desired rates of flow. For best cooling, the discharge pattern should be solid, extending laterally and downward to define the areas to be protected. It should be a mixture of water drops of varying sizes including mist fine spray according to the company's report.

The upright Automatic Spray Sprinkler in upright style for exposed piping installations and pendant type for concealed piping applications has been developed to meet the above requirements. The discharge and operating mechanisms of these units are identical to previous approved sprinklers, but the frame and deflector have been modified to assure efficient use of water for fire protection. Made by **"Automatic" Sprinkler Corp. of America**, P. O Box 360, Youngstown 10, O.

For more details circle NED-612 C3 on enclosed inquiry slip

BROWNHOIST BUILDS BETTER BUCKETS —for less money
DIRECT FROM FACTORY TO YOU



ROPE-REEVE, POWER WHEEL AND LINK TYPE
Write for illustrated catalogue
INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN

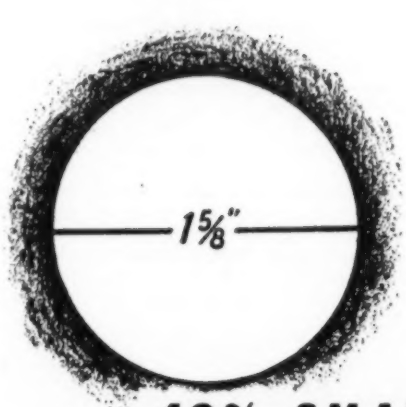
For more details circle NED-613 C3 on enclosed inquiry slip

NEW ADJUSTABLE DRILL JIG eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 22 Hancock St., Quincy, Mass. *Advt.*

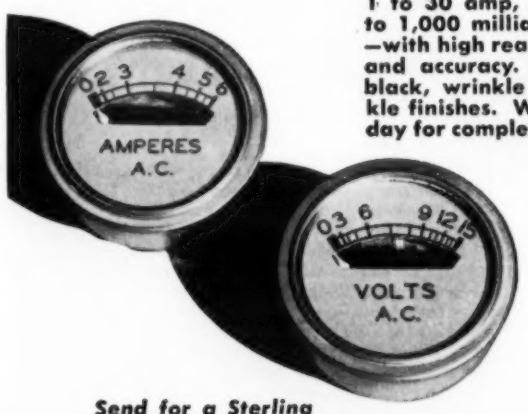
For more details circle NED-614 C3 on enclosed inquiry slip

YOU NEED ONLY THIS SIZE SPACE FOR STERLING INDICATING METERS



40% SMALLER THAN FORMER MODELS

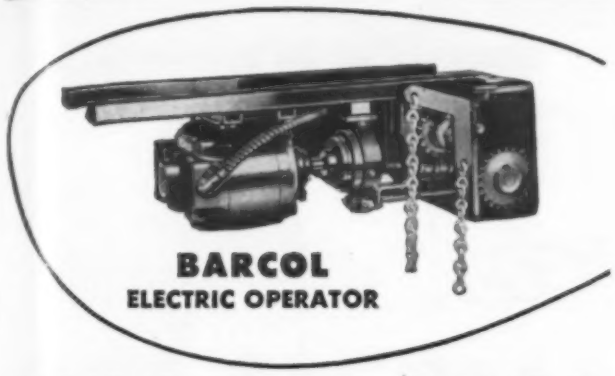
Typical of Sterling's ability to produce just the right meter for your needs at moderate cost is this new small unit for A-C or D-C service. Available in ranges of 1 to 50 V, 1 to 30 amp, and 10 to 1,000 milliamperes—with high readability and accuracy. In dull, black, wrinkle or nickle finishes. Write today for complete facts.



Send for a Sterling catalog today — a complete line of meters for the electronic and automotive field.

STERLING MANUFACTURING COMPANY
7201 WENTWORTH AVE.
CLEVELAND, OHIO

For more details circle NED-615 C3 on enclosed inquiry slip



FITS ALL JOBS

The main advantage of this electric door and gate operator is that it is almost "universal" in application. It will operate all kinds of overhead, swinging, sliding, and steel rolling doors, and sliding gates. This means lower first cost and lower maintenance cost because of requiring a minimum of repair parts and spare units.

Write for Literature

This new brochure, just off the press, completely describes the features and uses of Barcol Electric Operators. Write for your copy today!

Sales and service representatives in principal cities

BARBER-COLMAN COMPANY
108 MILL ST., ROCKFORD, ILLINOIS

For more details circle NED-616 C3 on enclosed inquiry slip

production flows smoothly...
at top speed, at all times, yet free of rejects

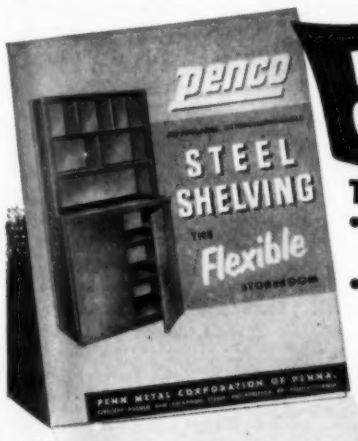
Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

KESTER SOLDERING FLUX

KESTER SOLDER COMPANY
4249 Wrightwood Ave., Chicago 39
Newark 5, N. J. • Brantford, Canada

KESTER SOLDER

For more details circle NED-617 C3 on enclosed inquiry slip



NEW! COMPLETE!

TELLS HOW...
- YOU CAN HAVE "CUSTOM-TYPE" STORAGE EQUIPMENT AT STANDARD SHELVING COST!
- YOU CAN STEP UP STOREROOM EFFICIENCY—SAVE TIME, LABOR, MATERIALS AND SPACE!

penco

SHELVING GUIDE

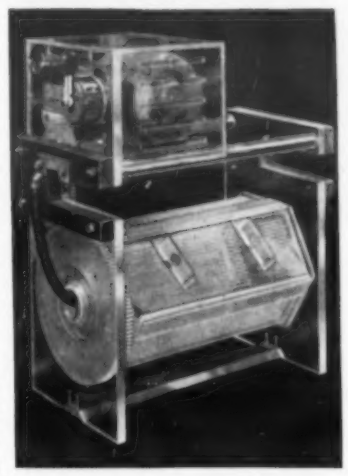
Here is a complete new guide to money-saving steel storage equipment—shelving, parts bins, tool racks, service counters, etc. Offers widest selection of *standard* shelving available—almost unlimited combinations of types, sizes and accessory parts to meet every storage need! Send for *free* catalog No. S-300.

PENN METAL CORPORATION OF PENNA. FOUNDED 1869
82 OREGON AVENUE PHILADELPHIA 48, PA.

A COMPLETE LINE OF STEEL LOCKERS, SHELVING, CABINETS

For more details circle NED-618 C3 on enclosed inquiry slip

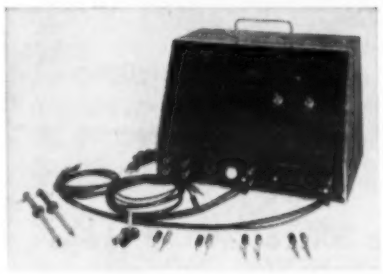
PORTABLE PLATING BARREL
Lucite unit operates at up to 185° F



Continuous processing of metal parts through operations of alkali cleaning, water rinsing, acid treatment and plating is provided by this portable plating barrel constructed of high temperature Lucite. Parts progress through these operations by manual handling, or with the aid of overhead traveling hoists. Cylinders with inside dimensions of 6 x 12 in. and 8 x 18 in. are available. Standard perforations are 3/32-in., while smaller or larger openings can be furnished as required. All gears are of ½-in. Lucite, and gear bearings are permanently lubricated. Operating temperature is up to 185° F. Made by **George A. Stutz Mfg. Co.**, 1639 Carroll Ave., Chicago 12, Ill.

For more details circle NED-619 C3 on enclosed inquiry slip

ELECTRONIC INTERVAL TIMER
accurate to 1 per cent in 0-99.9, 0-999 and 0-9990 millisecond ranges



Short time intervals of relays, contactors, fuses and voltage or current changes in circuits are measured by this G-R-S Synchrograph electronic interval timer. Timing ranges are 0-99.9, 0-999 and 0-9990 milliseconds, and accuracy is plus or minus 1 per cent. Indications are displayed as three-digit numbers, with provision for accumulating the total of a series of readings. Timing can be started and stopped by make, break and positive or negative-going voltage input signals, and sensitivity levels of 5, 15, 50 or 150 v can be selected.

Self-contained timer can also be used as an electronic counter of externally generated pulses. An input jack is provided for this purpose. A total count of 999 can be recorded at maximum rate of 10,000 counts per second. Instrument operates on 105 to 130 v, 50/60 cycle ac, and is supplied with two shielded cable assemblies, alligator clips, pin plugs, phone plug and clip-on test probes, all of which plug into cable terminals. Carrying case with space for accessories, plus instruction book are supplied as well. Made by **General Railway Signal Co.**, 801 West Ave., Rochester 11, N. Y.

For more details circle NED-620 C3 on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

READY FOR IMMEDIATE USE!

IPCO Roller Type FIRE BLANKET

Envelops entire body in a few seconds . . . One arm is put through the rope loop and a turn of the body is all that is necessary. End of blanket automatically detaches from the roller and permits escape from danger zone if necessary.
Blanket is 80% wool. Size 60" x 80" . . . FURNISHED WITH OR WITHOUT WEATHER-PROOF METAL CONTAINER.

WRITE FOR BULLETIN NO. 50

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-621 C3 on enclosed inquiry slip

How **hard-headed** *is this executive?*

HE THINKS HE IS A CYNIC.

But when it comes to leaving his plant over the weekend in the hands of an unsupervised Watchman—he is just a trusting soul. He can't conceive that his Watchman might sleep, shirk or skip rounds—thereby inviting disaster.

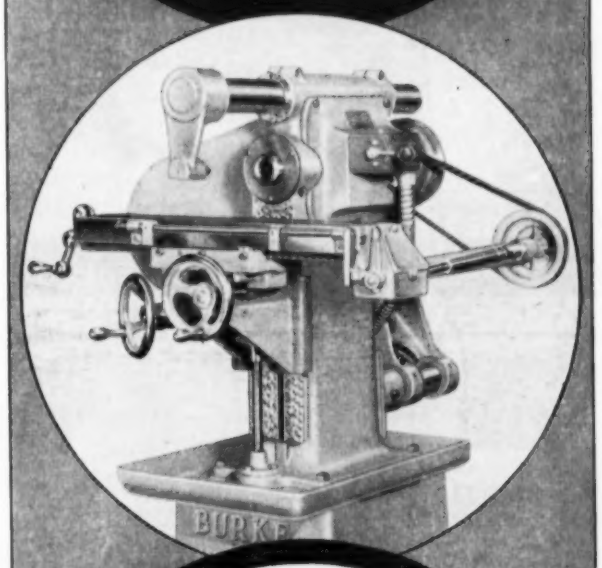
The tape-recording DETEX GUARDSMAN Watchclock gives you a tamper-proof record of your Watchman's fidelity. With the GUARDSMAN on the job, you don't have to pay a supervisor overtime to return to the plant Saturday and Sunday just to change the clock dial. The GUARDSMAN operates for as long as 96 hours without requiring anyone to cut the tape.

Find out how the GUARDSMAN *saves on premiums, assures you peace-of-mind. Send for FREE folder today.*

DETEX
PATROL ALERT ECO NEWMAN GUARDSMAN
WATCHMENS CLOCKS
DETEX WATCHCLOCK CORPORATION
Dept. N3.
76 VARICK STREET, NEW YORK 13, N.Y.
Sales and Service in All Principal Cities

For more details circle NED-622 C3 on enclosed inquiry slip

SPEED PRODUCTION
OF SMALL PARTS AT SMALL COST
with dependable
BURKE BENCH MILLERS



Bear-for-work Burkes, in hand and power feed models are cutting time and cost on jobs formerly done on big millers in many modern production lines. Versatile Burkes are also on duty in thousands of tool, development, repair and school shops. Send for circulars describing models and attachments.

THE *Burke* MACHINE TOOL CO.

A Division of U. S.-BURKE MACHINE TOOL CO.
BROTHERTON ROAD 2, CINCINNATI 27, OHIO

For more details circle NED-623 C3 on enclosed inquiry slip

MOELTING
Faultless ENGINEERED TRUCK CASTERS
CUT HANDLING COSTS

NEW!
DOUBLE ACTION SPRING CASTER

Doubles Caster Life and Service
Swivel and Rigid Units
Interchangeable Standard Wheels
Durable, Long-lasting Spring and Draw Bars, on centerline of wheel, prevent offset of load.

Wheel contacts floor surface at all levels—eliminates bounce—doesn't raise truck when mounting obstacles.
Write for descriptive literature, no obligation.

FAULTLESS CASTER CORPORATION
Dept. NE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

For more details circle NED-624 C3 on enclosed inquiry slip

Don't be surprised
. . . if the HydroLectric Lift Truck makes savings of 50 to 80% in your material handling.

HERE'S WHY...

HYDROLECTRIC is easier to operate because of its finger-tip control that is simplicity at its best.

HYDROLECTRIC does the job safely and quickly with its exclusive Dyna-Dual Power Unit that is quiet, odorless, powerful, rugged, and maintenance is practically nil.

HYDROLECTRIC costs less to operate than any other leading truck, and industry after industry has proved that it pays for itself in 3 months.

Want proof? Write for complete information.

LIFT TRUCKS INCORPORATED
2423-31 SPRING GROVE AVE.
CINCINNATI 14, OHIO

Over 1000 models and sizes

HYDROLECTRIC, HYDROMATIC and RED ARROW LIFT TRUCKS

For more details circle NED-625 C3 on enclosed inquiry slip

SPRAY NOZZLES

for chemical spraying, cooling, humidifying, dehydrating, and hundreds of other applications

You'll get the *right* nozzles quicker by calling Binks...manufacturers of one of the most complete selections ever produced. A wide range of spray patterns, sizes, capacities... with nozzles cast or machined from standard or special corrosion-resistant metals.

Binks Manufacturing Company
3122-34 West Carroll, Chicago 12, Ill.
O. K. BINKS. Send me your Spray Nozzle Catalog...FREE!
NAME
ORGANIZATION
ADDRESS
CITY ZONE STATE

Binks
A COMPLETE LINE OF INDUSTRIAL SPRAY NOZZLES AND COOLING TOWERS

For more details circle NED-626 C3 on enclosed inquiry slip

FLUORESCENT FIXTURE has low surface brightness

Luminette line of standard and slimline fluorescent fixtures features Neo-Rex acrylic plastic bottoms. It is offered in 4 and 8-ft long and 2-ft square units. The totally enclosed fixtures have no dust catching projections and feature low surface brightness in both surface and recess mounted types. Shield will not discolor and is easily snapped in and out. Made by **Neo-Ray Products, Inc.,** 315 E. 22nd St., New York 10, N. Y.

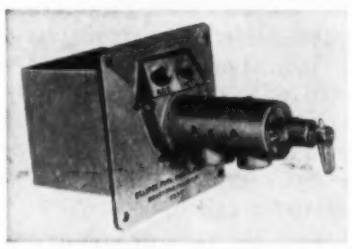
For more details circle NED-627 C3 on enclosed inquiry slip

PORTABLE AIR CIRCULATOR moves 3500 cfm air at any angle

Efficient draft-free cooling through as many as three rooms at a time is provided by model C-77 air circulator which utilizes 17-in. plastic propeller. Unit is portable, has closed type safety grille and finger-tip directional control for circulating air straight up, down or any angle in between. High, medium and low speeds are possible. Unit can be used as floor, table, window or hassock type fan. Finish is light green baked enamel. Made by **Fresh'nd-Aire Co.,** Dept. NED, 221 N. LaSalle St., Chicago 1, Ill.

For more details circle NED-628 C3 on enclosed inquiry slip

GAS-OIL BURNER for furnaces in 200 to 2400° F range



Any gas or oil fuel can be used in this closed-flame, dual-fuel, gas-oil burner for firing industrial furnaces, ovens and process equipment in operating range between 200° and 2400° F. Excellent flame retention and mixing qualities for gas, and atomizing efficiency for oil are features. A dual atomizing oil tip is employed in nozzle mixing principle in which secondary air meets fuel mixture in both converging and rotating pattern. Rotating main combustion air casting allows adjustments for any desired piping alignment. Blocks are interchangeable with those of conventional burners. Available are 3 and 10.5 gph sizes. Made by **Eclipse Fuel Engineering Co.,** 1002 Buchanan St., Rockford, Ill.

For more details circle NED-629 C3 on enclosed inquiry slip

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items.
The HAULER for cases, crates, tote boxes, etc.
The HUSKY for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

For more details circle NED-630 C3 on enclosed inquiry slip

standardize on standard

use it anywhere

HALLOWELL CARRY-TOOL

It's the most convenient carrier in the shop. Use it on assembly lines, at machines, in the toolroom. Use it for inspection, stockroom, maintenance, and mounting small tools. Drawers have ball bearing rollers and padlock attachments. Stocked and sold by industrial distributors. Write for literature. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE
HALLOWELL SHOP EQUIPMENT DIVISION SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-631 C3 on enclosed inquiry slip

JIG GRINDING ACCURACY *guaranteed**

INFINITE CONTROLLED SPEEDS
30,000 TO 65,000 R. P. M.

Easily connect jig grinder to jig borer or mill

Then you can finish grind in hardened steel to "tenths" . . . jig grind dowel holes square with a ground base . . . move location of holes in hardened steel blocks . . . jig grind interchangeable holes in hardened sections . . . grind small holes with diamond impregnated mandrels . . . grind contours and relief with tungsten carbide burrs . . . grind radii in die sections . . . eliminate jig bushings in tools where close spacing is essential.

Other infinitely controlled air driven spindle applications

Place spindle on most any machine. Use it for finishing contours on hardened steel working surfaces . . . burring or milling die castings . . . routing wood contours . . . carbide milling or finishing slots . . . finishing holes in hardened steel to "tenths" . . . grinding with diamond wheels, carbide burrs, or diamond impregnated mandrels.

Advantages—10 micro finishes using carbide mills . . . 6 micro finishes using mounted points, operates at any angle . . . air driven, air cooled, overheating prevented . . . speed controlled at optimum point . . . 3⅝" long motor uses little working space . . . By controlling speed at any point you abolish need for many constant speed spindles.

For immediate quotation please state machine tool application. Get this manual of photos showing operations Vulcanaire performs.

*Dependably accurate to "tenths"

Vulcanaire
BUILT BY TOOLMAKERS FOR TOOLMAKERS
VULCAN TOOL CO., 737 LORAIN ST. DAYTON 10, OHIO

For more details circle NED-632 C3 on enclosed inquiry slip

FOR ON-THE-SPOT HEATING OF SOLID OILS, TARS, GREASES, ETC.

CHROMALOX Immersion Heaters are especially designed for portable use in drums and tanks. They give the temperatures needed for efficiently melting coconut oils, lard, tar and similar viscous fluids. When put into drums the Heaters melt their way through contents without tilting. Units can easily be moved from one drum or tank to another. Ratings: 1100 to 4400-watts.

Want More Details?
Send for the free booklet "100 Ways to Apply Electric Heat" which illustrates Chromalox Heaters "at work."

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

See other ad. on pg. 4

CHROMALOX IB-96

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle **NED-633 C3** on enclosed inquiry slip ▲

The *Speedline* system saves money on stainless piping and increases flow and capacity

You can save money on your corrosion-resistant lines...even cut your costs in half. *Speedline* engineers achieve these amazing results by using the new light wall stainless pipe and versatile *Speedline* Fittings.

WRITE FOR THIS FREE BOOK

Just write a note on your company letterhead and we will mail you the *Speedline* catalog. It shows why you get better results at less cost with *Speedline* Fittings.

***Speedline* distributors are located in principal cities from coast to coast**

HORACE T. POTTS CO. *Since 1815*

532 E. Erie Avenue, Philadelphia 34, Pa.

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BLENDING IN A WELD — faster and better with a Norton BFR semi-flexible wheel.

CLEANING OUT CASTING FINS — easier and safer with a Norton BD rigid wheel.

Your "TOUCH OF GOLD" team for low cost portable grinding

The Norton Reinforced Hub Wheels, BD rigid and BFR semi-flexible, are easier to handle than cup wheels, longer lasting than coated abrasive discs, are more versatile than either.

Made of aluminum oxide and silicon carbide abrasives they cut fast and cool. They're reinforced with strong Nylon webbing, for tops in safety. And they make a grinding team that will help you turn out products faster and easier — adding your profit-boosting "Touch of Gold" to countless every-day jobs.

SEE YOUR NORTON DISTRIBUTOR for full particulars or write to NORTON COMPANY, Worcester 6, Mass. for descriptive folder #225. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Inc. Worcester 6, Mass.

NORTON ABRASIVES
Making better products to make other products better

W-1473

▲ For more details circle **NED-635 C3** on enclosed inquiry slip ▲

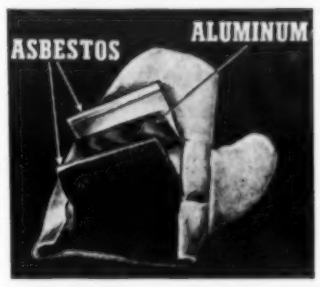
PANEL TRUCK COMPRESSOR delivers 105 cfm at 100 psi

Air is delivered at 105 cfm at 100 psi by model 105-VBA Auto-Air compressor assembly suitable for mounting on standard panel type trucks. Unit is

driven directly from truck engine through Davey P-80 heavy duty power takeoff. Compressor occupies only one-third of truck body, leaving remainder open for transportation of men, tools and materials. Made by **Davey Compressor Co.**, Myers Ave., Kent, O.

▲ For more details circle **NED-636 C3** on enclosed inquiry slip ▲

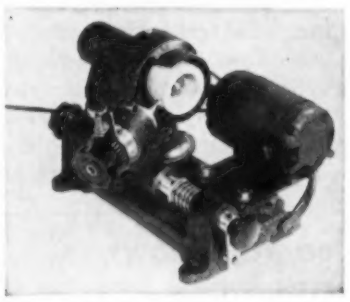
PROTECTIVE MITT is aluminum lined and reversible



Added to company's line of protective gloves is this asbestos, aluminum-lined reversible mitt. Glove reflects up to 90 per cent of radiated heat and is practical for handling objects with temperatures up to 1200° F. The asbestos is treated for abrasion resistance. Made by **Milburn Co.**, Dept. N, 3245 E. Woodbridge St., Detroit 7, Mich.

▲ For more details circle **NED-637 C3** on enclosed inquiry slip ▲

CUTTER GRINDER for any engraving or routing cutter

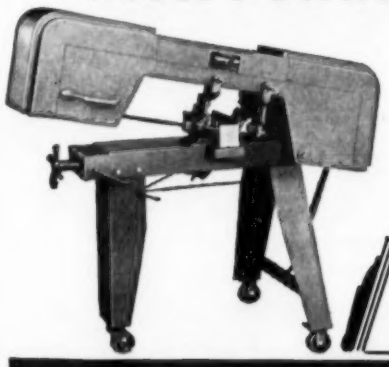


Cutters from any type of engraving or routing machine can be ground by the improved, vibration-free model CG2 grinder. It has ball bearing spindle driven by smooth, endless belt. The compact unit can be mounted on work bench next to engraving machine. Tool head is designed for spring collets and has capacity of ½-in. diameter shank cutters. It has an indexing device for grinding single lip, two, three and four-sided cutters. Operator need not be experienced. Made by **New Hermes Engraving Machine Corp.**, Dept. 26, 13-19 University Pl., New York 3, N. Y.

▲ For more details circle **NED-638 C3** on enclosed inquiry slip ▲

Yes, this Johnson "Junior" Band Saw can do a real job. It's small and handy, yet sturdy, and has speed, versatility and accuracy. Use it for production or occasional cutting in small shops or large plants. Furnished with or without casters. Roll it or carry it. Move it in a jiffy to do countless jobs.

JOHNSON "JUNIOR" MODEL B BAND SAW



5" x 10" capacity. Inexpensive. Will pay for itself many times over.

ALSO MODEL J, a heavy, sturdy tool. Capacity 10" x 18".

Write for CATALOG!

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

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When heavy, unwieldy weldments like these diesel crank cases can be quickly swung into any position so that every weld is made downhand—that's efficient welding.

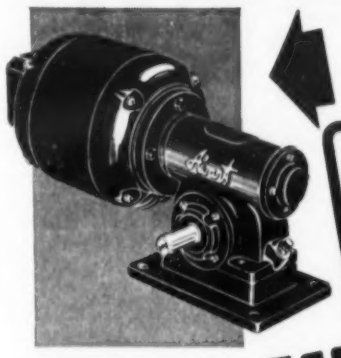
Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because these hand and/or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.

Write for Bulletin WP 24—an illustrated circular detailing the Specific Advantages of C-F Positioners.

CULLEN-FRIESTEDT CO.
1304 S. Kilbourn Chicago 23, Ill.

▲ For more details circle **NED-640 C3** on enclosed inquiry slip ▲

Find out WHY more and more MODERN DESIGNers choose ABART GEARMOTORS



Abart Gearmotors are available with output speeds as low as 17½ R.P.M., 1/6 to 5 h.p., ratios 5-4/5 up to 100 to 1.

SEND TODAY FOR THIS HANDY, "POCKET-SIZE" CATALOG

For production machinery or adaptations of speed reduction for special equipment—modern designers find that their job is simplified with ABART GEARMOTORS. You, too, can get the same results, satisfaction and national service with Abart.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

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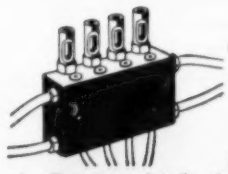
NEW AUTOMATIC LUBRICATION FOR SMALLER MACHINES

SMALLER machines can now have a completely automatic system of Farval centralized lubrication—as efficient and economical as the larger Farval systems which have proved so valuable on heavy industrial equipment during the past 26 years.

Only 20½" high. Base 15" x 10⅝" Driven by ¼ hp ac motor.

Heart of the system is the new small DC-20 pumping unit which is adaptable for compact, easy installation. Designed for use with unique Dualine valves that deliver exact measured amounts of lubricant to each bearing as often as desired. No need to stop machine for lubrication. Eliminates down time required for hand oiling. Saves up to 75% in lubricant. WRITE NOW FOR FREE BULLETIN 39.



THE FARVAL CORPORATION
3283 East 80th Street
Cleveland 4, Ohio
Farval is an affiliate of The Cleveland Worm & Gear Co.

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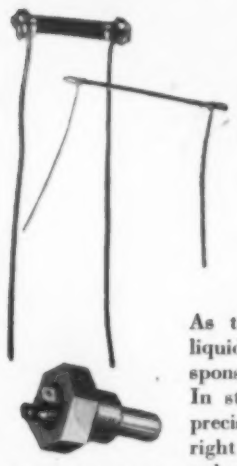


Used in this typical application for sensing temperature of hydraulic oil.

just right for your job!

BENDIX-FRIEZ

BENDIX-FRIEZ

high-precision thermistors

As temperature measuring elements and liquid level sensors, these temperature responsive resistors are the best you can buy. In standard or special types, their high-precision manufacture makes them precisely right for your job when it comes to resistance values, size, temperature coefficient, mountings and quality. Ask us about applications.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

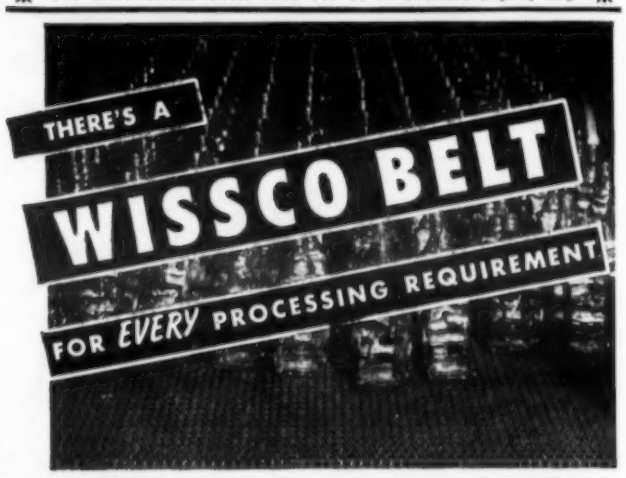
Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix Aviation Corporation

1444 Taylor Avenue, BALTIMORE 4, MARYLAND

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

For more details circle **NED-644 C3** on enclosed inquiry slip



Custom-engineered to meet your specific requirements, Wissco Metal Processing Belts are furnished in standard or special mesh constructions . . . in conventional and spiral weaves . . . and with rod reinforcements for high-temperature service. Supplied in correct metal or special alloy for resistance to heat, abrasion and chemical action.

For specific information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

WISSCO BELTS

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

For more details circle **NED-645 C3** on enclosed inquiry slip

FABRICS & TAPES For ALL INDUSTRY

FLIGHTEX FABRICS

- COTTON
- VINYON
- RAYON
- NYLON
- GLASS
- DYNEL
- ORLON

If you use special industrial fabrics and mechanical tapes, you'll find Flightex a dependable source of supply. Our staff of engineers is at your service to help solve your fabric and tape problems.

Write for Complete Information

FLIGHTEX FABRICS, Inc.

91 Worth Street New York 13, N. Y.

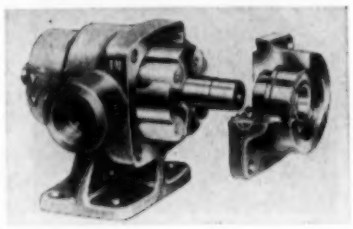
For more details circle **NED-646 C3** on enclosed inquiry slip

INDUCTION PERIOD CALCULATOR
tests gasoline oxidation stability

Human errors of interpretation in the ASTM test for oxidation stability of gasoline (D-525) can be eliminated through the use of the induction period calculator. It provides a rapid, accurate and reproducible means of calculating the induction period. Calculator consists of two parts: a white laminated plastic disk of 15-in. diameter, and a heavy Bakelite template. Latter part fits over a brass hub which aids in centering the Foxboro or "Tag" pressure charts. The induction period is read to an estimated accuracy of 1 minute. Made by **Precision Scientific Co.,** 3735 W. Cortland St., Chicago 47, Ill.

For more details circle **NED-647 C3** on enclosed inquiry slip

INDUSTRIAL PUMP
can handle abrasive solutions



Scoop rotor and roller type vanes of 4000 series industrial pumps enables use where lime, talc and similar abrasive solutions are encountered. Pumps withstand continuous heavy radial loads because of their sealed lubricated ball bearings. The pressed fit of the stainless steel shaft into the inner race of the ball bearings restricts lateral rotor movement and minimizes end thrust and wear of the rotor within the pump. Self-priming pump is available in cast iron or Ni-Resist and has Nylon or Hy-Car rubbers that are self-lubricated by water and are abrasion resistant. Delivery is about 7½ gpm at 100 psi and 1750 rpm, and pressure range is from 0 to 100 psi. Made by **Hypro Engineering, Inc.,** Dept. NED, 404 N. Washington Ave., Minneapolis 1, Minn.

For more details circle **NED-648 C3** on enclosed inquiry slip

DO YOU KNOW? A completely disposable waterproof hospital sheet has been developed. Odorless, flexible and having absorbent towel-like upper surface which is colored blue for identification, Lage Safe Mat sheeting is offered in rolls 36 in. wide x 300 ft long. Cut sizes are offered also. Geon waterproof plastic coating is used on underside. Sheeting will have widespread industrial uses also. Made by Brown-Bridge Mills, Inc., Troy, O.

For more details circle **NED-649 C3** on enclosed inquiry slip

IDEAL CLIP-A-TAPE® GUMMED TAPE DISPENSER

CUTS THEM ALL!

CLOTH TAPE
REINFORCED TAPE
STRING-FILLED TAPE
STANDARD KRAFT

- Measures your tape—Saves 10% to 20%.
- Secures top production.
- Insures safe positive sealing.
- Produces perfectly moistened tape at any speed.

FREE! "IDEAL SHIPPING GUIDE"

IDEAL STENCIL MACHINE CO.

134 IOWA AVE., BELLEVILLE, ILL.

For more details circle **NED-650 C3** on enclosed inquiry slip

FIGHT FIRES with ROCKWOOD TRIPLE-ACTION WATERFOG NOZZLES

Illustrated, Rockwood WaterFOG Nozzle Type SG-48.

With a Rockwood Nozzle you can pick your discharge pattern. Its triple action gives you conventional straight stream, high velocity WaterFOG or low velocity WaterFOG. You get quicker quenching of fires because the Rockwood nozzle goes into action faster . . . . there's more protection to life and nearby combustibles . . . and there's less water damage because less water is used. Write for booklet, "15 Types of Fire Protection," to get the newest information in fire protection.

Tested by Underwriters' Laboratories, Inc., and approved by Factory Mutual Laboratories.

ROCKWOOD

ROCKWOOD SPRINKLER CO.

Engineers Water . . . to Cut Fire Losses

44 HARLOW STREET, WORCESTER 5, MASS.

For more details circle **NED-651 C3** on enclosed inquiry slip

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Write for full information today, to Dept. A.

CALCULAGRAPH COMPANY

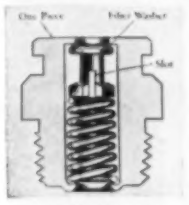
SUSSEX STREET, HARRISON, NEW JERSEY

For more details circle **NED-652 C3** on enclosed inquiry slip

A NEW UNIVERSAL DEVELOPMENT

Giant Buttonhead Grease Fittings with One-Piece Construction!

To solve a problem, Universal Giant Buttonhead Fittings bring a design new to the field. Their one-piece construction prevents the leaking possible with conventional two-piece buttonhead fittings which can be separated by extreme pressure or jolting.



CROSS SECTION

Universal Giant Buttonhead Fittings are stronger, longer-wearing, abuse-resisting. A rugged steel inner-spring combines with a fiber sealing washer to prevent grease leak-back. *Check your machinery.* Wherever a conventional two-piece grease or oil fitting is vulnerable to being knocked apart by a jolt or high pressure, that's the place for Universal.

Discover more about these revolutionary new one-piece giant buttonhead fittings. They come in all regular sizes. Write now for complete information.

UNIVERSAL LUBRICATING SYSTEMS, INC.
792 Allegheny Avenue Oakmont, Pa.

For more details circle NED-653 C3 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

WATERLOO METAL BOXES AND CHESTS

Waterloo

VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

For more details circle NED-654 C3 on enclosed inquiry slip

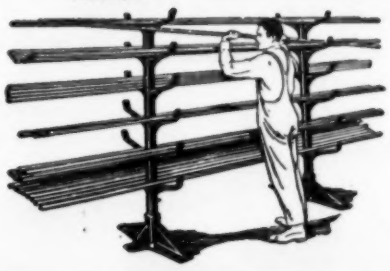
FLEXIBLE STORAGE FAST SELECTION

Time lost end hauling each bar from the old style, closed side rack is readily saved with Brown Time-Saving Racks which require only inches of side movement. Each length, width, and thickness of stock is displayed in "goldfish" visibility for quick selection. Waiting workmen are served promptly. Additional storage capacity can be added at any time by ordering one or more of the interchangeable units.

Respacing the units is easy, since standard racks need not be anchored or braced unless crane loaded. This storage flexibility can be further extended by adding or subtracting arm-holding sections.

Brown Racks are simple, durable, made of metal in five standard models. They can't burn, sag, or twist. Depreciation is practically nil. Lined up in soldierly rows, they make a neat orderly appearance, which not only builds employee enthusiasm, but generates a more respectful attitude toward economies in general. SEND FOR BULLETIN NO. 26D

BROWN'S *QUICK-SERVE* RACKS



BROWN ENGINEERING CO.
129 NORTH 3RD ST. READING, PENNA.

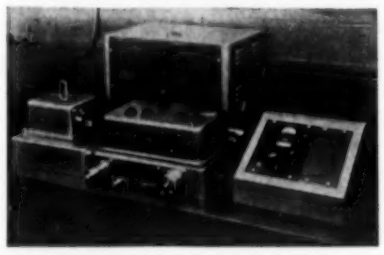
For more details circle NED-655 C3 on enclosed inquiry slip

PLASTIC OBSERVATION PORTS resist abrasion, chemicals and heat

Corrosion-resistant metal framed window units made by Bijur Lubricating Corp. and intended for use as observation ports, lubrication checkpoints, fluid level indicators or protective instrument windows are now made from Cocor CR-39 cast plastic. Units install simply in cover or base of any mechanical equipment. Plastic is tough, optically clear allyl diglycol carbonate which does not craze or deteriorate in contact with solvents, oils, acids, alkalies and hydrocarbons. It is offered in sizes up to 60 x 60 in. and 38 x 96 in. and in thicknesses from 0.020 to 1 in. Plastic is made by **Cast Optics Corp.**, Riverside 6, Conn.

For more details circle NED-656 C3 on enclosed inquiry slip

INFRARED SPECTROMETER for single-point chemical analyses accurate to plus-minus 0.25 per cent



A simplified version of the model 112 infared spectrometer, this model 112-S is used in measuring concentration of one or more components in a mixture, determining presence or absence of an impurity and routine checking of raw materials. Accurate to plus or minus 0.25 per cent, easily operated instrument measures directly by densitometer of infrared radiation at a specific single wavelength. Any wavelength within range of prism can be selected by manual selector.

Double pass optics increase accuracy throughout range by reducing scattered radiation to less than 0.1 per cent. Wavelengths available are near infrared, 0.5 to 2.5 microns; fundamental region, 2 to 15 microns; and far infrared, 15 to 38 microns. Instrument can be converted for automatic recording by adding proper accessories. Made by **Perkin-Elmer Corp.**, Danbury Rd., Norwalk, Conn.

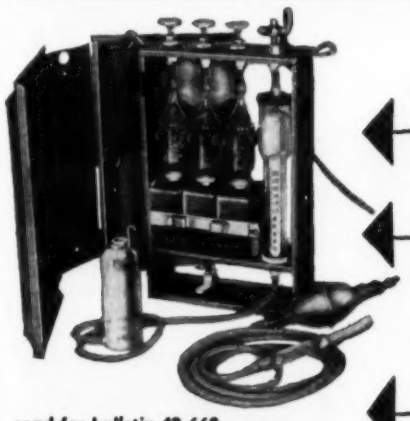
For more details circle NED-657 C3 on enclosed inquiry slip

DO YOU KNOW? Gas gages on automobiles can be checked and any trouble located without removing gages with a new tester. Device finds faults in dash unit, wiring or tank element, and thus servicing is easy and economical. Developed by General Motors Co., AC Spark Plug Div., Flint 2, Mich.

For more details circle NED-658 C3 on enclosed inquiry slip

Analyze for CO, CO_2, O_2 with one instrument

HAYS ORSAT GAS ANALYZER



Complete—3 absorption units provide complete gas analysis for all the operating engineer's needs.

Rugged—built for continuous field use . . . strong, pressed steel construction.

Portable—contains everything you need to make a complete analysis . . . in one easy-to-carry case. Compact, yet all parts are easily accessible.

send for bulletin 49-668 for complete description of all styles.

The Hays Orsat Type Gas Analyzer is simple, fast, and employs the most reliable method known for obtaining accurate measurement. Available in one, two or three-unit styles (illustrated).

THE HAYS CORPORATION
MICHIGAN CITY 15, INDIANA
combustion and industrial instruments and control

For more details circle NED-659 C3 on enclosed inquiry slip

this time-study saves you money!

BUSINESSES SAVE HOURS EACH DAY

Actual time studies taken in hundreds of businesses show that an average of 18 seconds is required to make an "inside" speech contact through the switchboard. With *your own* AMPLICALL "clear line" *internal* communication system—you get *2-second speech contact* within and between departments. AMPLICALL frees busy switchboards for important outside calls—keeps personnel *on the job*, keeps talk terse—saves hours each day for the average business. AMPLICALL saves you money—pays for itself. There is a system to fit your special needs. Get the full facts today!

SEE YOUR PHONE BOOK
For your nearest AMPLICALL specialist, look under "Intercommunication" in your classified phone directory—or write direct for full information.

ELECTRONIC AMPLICALL INTERCOMMUNICATION

RAULAND-BORG CORPORATION
3523-D Addison Street, Chicago 19, Illinois

For more details circle NED-660 C3 on enclosed inquiry slip

These parts help give Weston instruments their accuracy . . .

They're checked on Kodak Contour Projectors

There is such a great variety of Weston instruments to measure all sorts of variables in all sorts of ranges that production on most individual items is small.

This creates a parts inspection problem. Precision requirements in many cases are so stringent that any measurable deviation from specifications is too big. Setting up toolroom instruments takes too long for the small volume of work being checked at any one time. Mechanical gages are even less economical at the low volume levels.

Now Weston has converted to Kodak Contour Projectors. An inspector merely picks up the specification sheet covering a given part, gets the chart gage indicated there, puts it on the screen of the projector, and proceeds to sample according to specifications. Often, as with the valve body, gage blocks are used to step off the traverse of the projector work table. The inspector notes whether a shadow image coincides with a chart line after the table has carried it by the specified distance.

Possibly your inspection problems are volume and speed rather than the flexibility that Weston wants. In that case you will want to know about the Kodak Contour Projector, Model 3. There is a field engineer who can show you which model best fits your problem. To get in touch with him, just drop a note to *Eastman Kodak Company*, Industrial Optical Sales Division, Rochester 4, N. Y.

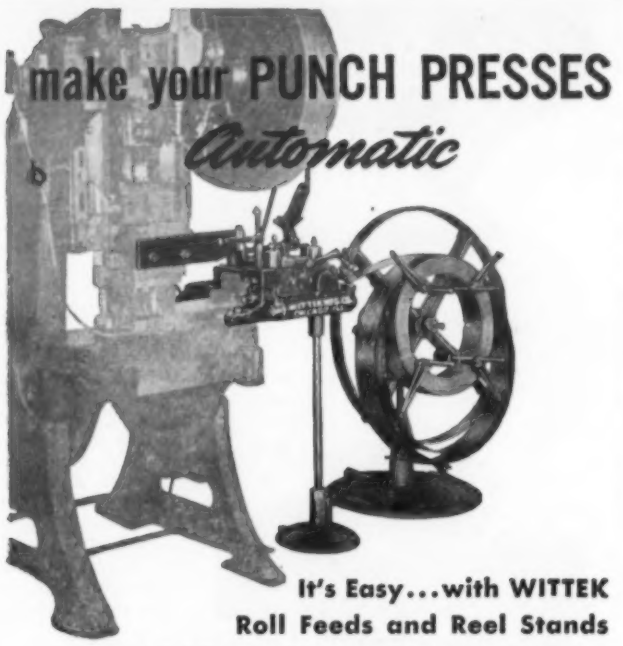
the KODAK CONTOUR PROJECTOR

Optical Gaging

A new sound movie shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Kodak
TRADE MARK

For more details circle NED-661 C3 on enclosed inquiry slip



It's Easy...with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

WITTEK Manufacturing Co. — Automatic ROLL FEEDS AND REEL STANDS

4325 W. 24th Place, Chicago 23, Illinois

For more details circle **NED-662 C3** on enclosed inquiry slip

MAY-FRAN AUTOMATIC SCRAP HANDLING SYSTEM . . .

World's largest automatic scrap handling system engineered by **MAY-FRAN** can handle one million pounds of scrap per day . . . one man controls all operations! Twenty conveyors collect scrap from presses . . . transfer it to the 1145-foot main conveyors . . . then scrap is conveyed to baler house where it is compressed into bales and discharged into automatically indexed freight cars on siding. Entire system is operated from a single control station.

Whether you need a complete plant-wide system or a single scrap handling unit, **MAY-FRAN** can meet your requirements. Conveyors of any size can be supplied using the unique **MAY-FRAN** hinged-steel belting. Speed-up production . . . eliminate manual handling . . . reduce scrap handling costs with a **MAY-FRAN** system!

Write today for illustrated catalog.

1024-MF

MAY-FRAN ENGINEERING, INC.

1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

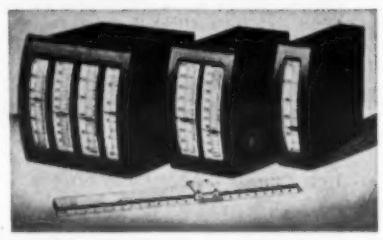
For more details circle **NED-663 C3** on enclosed inquiry slip

OPTICAL COLLIMATOR
accuracy greater than 0.002-degree

Among uses of model 4 Jackknife Auto-Collimator are measuring parallelism of two surfaces of transparent or opaque objects, angular measurements including prism angles, 'go no-go' surface quality gaging, index of refraction and focal length measurements. Instrument is used directly against any light reflecting surface, and accuracy is greater than 0.002-degree. Folded optical path permits all instrument components to be housed in single casting. Optical characteristics are same as those of 80-mm diameter telescope with 960-mm focal length and aperture of f/12. Standard eyepiece has 12-mm focal length and magnifies 80X. Other eyepieces for reduced magnification and micrometric focussing are available. Made by **Perkin-Elmer Corp.**, Danbury Rd., Norwalk, Conn.

For more details circle **NED-664 C3** on enclosed inquiry slip

SMALL INDICATING INSTRUMENTS
act as receivers or as direct reading gages or panelboard thermometers



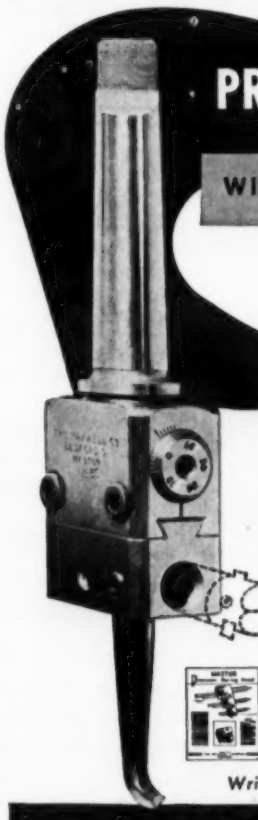
Designed for panel mounting, series of vertical scale indicating instruments is trade named Mindicators because of their size and compactness. They can be used on graphic or process control boards as receivers and as direct-reading gages and thermometers. Accuracy, legibility and compactness are features.

Panel opening of only 5⅜ x 1½ in. is required for mounting single scale unit, and 1⅜ in. of additional width provides for each unit added to a multiple housing. Scale length is full 4 in. Each measuring unit is a separate instrument and can be removed or replaced in housing without disturbing other elements.

As receivers, indicators operate on 3 to 15 psig pressure, using individually calibrated metallic bellows measuring elements. Different scale readings can be provided as required by installation. Thermometers are available with any scale range from −200° F to 1000° F. Different scale arrangements as direct reading pressure gages can be provided from a low of 0 to 10 psig to a high of 0 to 1000 psig. Bellows are used in ranges below 60 psig and spiral bourdon tubes on higher pressure ranges. Made by **Dickson Co.**, 7418 Woodlawn Ave., Chicago 19, Ill.

For more details circle **NED-665 C3** on enclosed inquiry slip

PRECISION BORING WITH MAXWELL MASTUR TOOLS



• Adjustable to 0.0002-inch, the new improved MASTUR boring tools feature precision, speed and long service life. New body and block construction permits these tools to take heavier cuts at higher speeds — to do more work in less time.

Adjusting-screw head is graduated into 50 divisions to provide readings in thousandths, and body is graduated to permit vernier readings of 0.0002-inch. The three models available have maximum boring bar capacities of 1/2, 3/4 and 1-inch and boring range from 3/8 to 15 inches.

Write for catalog.

987-MC

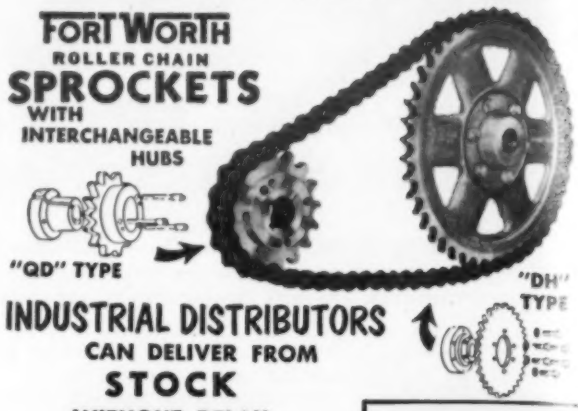
THE MAXWELL COMPANY

390 Broadway • Bedford, Ohio

For more details circle **NED-666 C3** on enclosed inquiry slip

IMMEDIATE DELIVERY WITHOUT REBORING!

FORT WORTH ROLLER CHAIN SPROCKETS WITH INTERCHANGEABLE HUBS



INDUSTRIAL DISTRIBUTORS CAN DELIVER FROM STOCK WITHOUT DELAY FOR REBORING

FORT WORTH *Sprockets Offer Many Advantages*

- Actually Fits Shaft Better
- Reduces Cost of Spares
- Simplifies Changes
- Cuts Replacement Costs

HUBS ALSO FIT FORT WORTH TRANSCO V-BELT SHEAVES

CATALOG 300-C Shows list prices and dimensions of stock QD & DH sprockets. Chain dimensions and drive recommendations are in easy-to-use form.

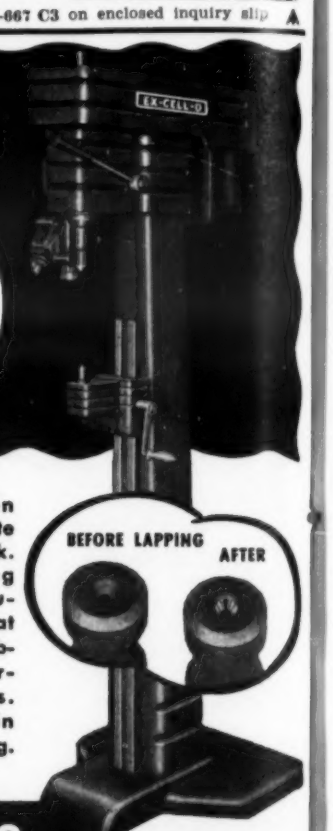
FORT WORTH STEEL AND MACHINERY CO.

Dept. 223, 3600 McCart St. Fort Worth, Tex.

For more details circle **NED-667 C3** on enclosed inquiry slip

For Precision Between Centers

EX-CELL-O CENTER LAPPING MACHINES



Meeting today's precision standards requires accurate center holes in the work. Ex-Cell-O Center Lapping Machines correct inaccuracies of center holes that affect the quality of all subsequent operations performed between centers. Fully described in Bulletin 40271—yours for the asking.

51-11

EX-CELL-O CORPORATION DETROIT 32, MICHIGAN

XLO

For more details circle **NED-668 C3** on enclosed inquiry slip

CUT LOADING TIME! 1 DOCK HANDLES THE FREIGHT OF 3

ROWE ADJUST-A-DOCKS
Eliminate Costly Hand Loading

1. Brings dock to level of any truck bed.
2. Speeds loading by fork and lift truck directly into carriers.
3. Eliminates dock hazards.
4. Floats at truck level.
5. Sturdy hydraulic finger-tip control.
6. Pays for itself in 30 days.

ADJUST-A-DOCK

LOOK into the SAVINGS you can make in freight handling with Rowe Adjust-A-Docks. *WRITE FOR BULLETIN* and complete information.

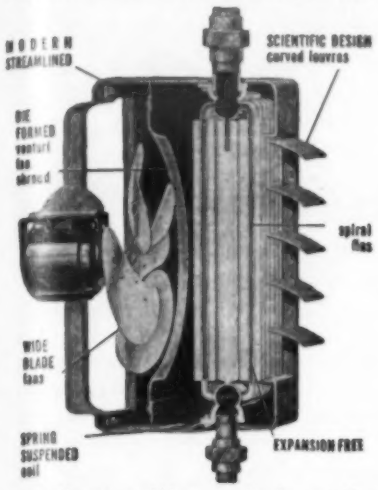
ROWE METHODS, INC.

2534-I DETROIT AVENUE • CLEVELAND 13, OHIO

For more details circle **NED-669 C3** on enclosed inquiry slip

UNIT HEATER . . sets new standard of quietness and heating efficiency

McCord Unit Heaters are a time proven product embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure but are made attractive in appearance. Two outstanding features appeal to maintenance engineers — we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service— the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request or write for folder. "Instructions for Maintenance of Unit Heaters." **McCord Corporation,** Detroit, Mich. *(Advt.)*



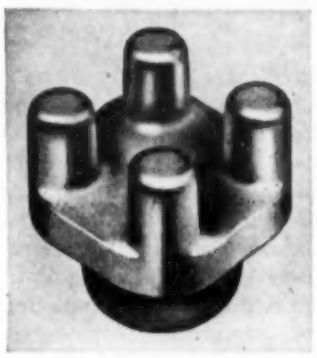
▲ For more details circle **NED-670 C3** on enclosed inquiry slip ▲

BIN BOXES made of hard corrugated board

Taking the place of bin dividers, these bin boxes of chemically hardened corrugated board also increase bin capacity. Instead of removing contents of bins at inventory time, the entire box is pulled out and weighed. The tare weight of the boxes is constant. They can be cross stacked for transfer by pallet. Boxes for 36-in. deep (shown) and 24-in. deep shelves are made by **Convoy, Inc.,** 3224 Navarre Rd. S. W., Canton 6, O.

▲ For more details circle **NED-673 C3** on enclosed inquiry slip ▲

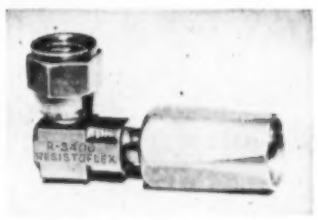
BAR KNOBS applicable for jigs and fixtures



Usable where strong clamping action is essential, Wespo bar knobs can be used to replace standard knobs and handwheels in dies, jigs and fixtures. Bar is inserted between the prongs to afford leverage in tightening. Made of malleable iron castings, knobs are offered in range of blank, drilled and reamed, or tapped sizes. Made by **West Point Mfg. Co.,** 26943 W. Seven Mile Rd., Detroit 19, Mich.

▲ For more details circle **NED-674 C3** on enclosed inquiry slip ▲

SWIVEL NUT ELBOW FITTING in 90 and 45-degree angle turns



This one-piece steel elbow with swivel nut for use with ¼ and ⅜-in. aircraft hose is useful in gun charger locations, pilot ejector seat actuators, gas turbine engines and close-quarter airframe locations. Angle turns of 90 and 45-degrees are made in the fitting rather than with the hose. With these fittings connections can be located close to an obstruction since provision need not be made for swing of angle adapters. Unindexed straight adapters can be used instead. Fittings are available in −4 and −6 sizes in both 45 and 90-degree angles. Made by **Resistoflex Corp.,** Dept. NED, Belleville 9, N. J.

▲ For more details circle **NED-675 C3** on enclosed inquiry slip ▲

WRITE YOUR OWN TICKET FOR

Quality Wire!

SPECIFY SENECA FOR WIDE RANGE OF USES

- ☐ Aircraft
- ☐ Armature
- ☐ Cable
- ☐ Car Seal
- ☐ Cotter Pin
- ☐ Curtain Spring
- ☐ Flexible Shaft
- ☐ Glass Netting
- ☐ Hair Pin
- ☐ Lock Spring
- ☐ Piston Ring
- ☐ Plow Steel
- ☐ Ring Traveler
- ☐ Rope
- ☐ Spark Coil Core
- ☐ Spring
- ☐ Stapling
- ☐ Stitching
- ☐ Weaving

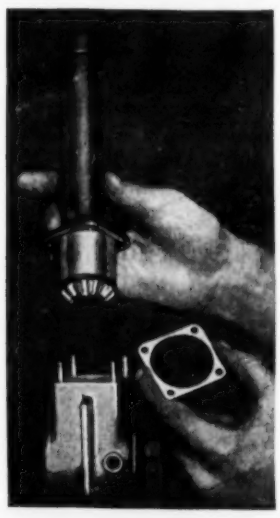
Whatever your needs in wire . . . specify SENECA for *top quality* and *uniformity!* High or low carbon steel wire . . . aluminum . . . bronze. Sizes No. 40 W & M (.007) and larger . . . round, half round, oval, square, flat, straightened and cut. Finishes—bright, soft annealed, coppered, liquor, tinned, bright galvanized, oil tempered, enameled. Write about your requirements.

SENECA WIRE & MANUFACTURING COMPANY, FOSTORIA, OHIO

Representatives in practically All Principal Cities

▲ For more details circle **NED-671 C3** on enclosed inquiry slip ▲

2 Seconds



CAN SAVE YOU TWO HOURS!

Adjusting bevel gear mesh with a laminated shim is a matter of two seconds to remove a lamination!

The shim in this case is made of LAMINUM®, our exclusive material. It is a "solid" unit built up of 16 layers of .002 brass. It peels quickly and easily. Each shim removed adjusts the bevel gear position by two thousandths.

You save time by easier machining tolerances on the housing; ***you save time*** by eliminating pesky assembly machining; ***you save*** by not tying up a machine intermittently. IT'S EASIER!

LAMINATED SHIM COMPANY, INC.

SEND FOR LITERATURE

SHIM HEADQUARTERS SINCE 1913

Check Our Stampings Division For Your Stamped Parts Requirements

2303 UNION STREET • GLENBROOK, CONNECTICUT

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NEW WELDED PLATE RESISTORS

... 13 to 37 amperes continuous capacity

These new sections, TAB-WELD-X, complement the well known TAB-WELD Sections for high current applications. In both styles, heat radiation is *efficient.* Spacing between grids is a minimum of ⅜" on the smallest size up to ¾" maximum on the 150-ampere continuous capacity section. . . . Note the many taps which make on-the-job connections easy, and readily permit small adjustments in resistance value. EC&M TAB-WELD Resistors may be used, without alteration, "off-the-storeroom shelf."

Write for NEW Bulletin 942

THE ELECTRIC CONTROLLER & MFG. CO.

2698 East 79th Street • Cleveland 4, Ohio

▲ For more details circle **NED-676 C3** on enclosed inquiry slip ▲

Cummins BALL•RITE 44

$29.95

BALL•RITE construction is a combination of the finest specs in an industrial tool.

1. Ball bearings in the right places.
2. Always hardened gears.
3. Always Cummins double coil motor (the type always used in industrial drills.)
4. Always dynamically balanced armature for smooth, flowing power.

Equals $40 Industrial Quality Drills

Here is a $40 drill in everything but price. Has exclusive Cummins BALL•RITE specs . . . PERM-ALIGN gearing that can't accidentally be knocked out of line . . . super-powered motor that can't be stalled in metal up to ¼-in.; up to ½-in. in wood. *Buy BALL•RITE and buy right!* At your Industrial Supply or Hardware Dealer.

GET THE FACTS— Find out what BALL•RITE means to you. Send for Spec Sheet . . . N-33

CC Since 1887

Cummins-Chicago Corp.

DIVISIONS: Cummins INDUSTRIALS • Cummins Portable Tools

4740 N. Ravenswood Ave. • Chicago 40, Illinois

IN CANADA: 334 Lauder Ave., Toronto

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Want Your PLYWOOD "MEDIUM RARE"?

We know it looks silly to compare a piece of plywood with a juicy steak, but we did it just to illustrate another AETNAPLY service.

You can order your plywood "Just the way you want it" when you order from AETNA. As a steak is ordered to suit your *taste*— Plywood is ordered to suit your *job.*

No matter what your production requirements are, check with AETNA. Do you want it cut-to-size; machined; dip-treated; sprayed? We'll furnish it that way. Do you require odd-shaped or odd-size stock? We'll furnish it as you want it when you want it.

Send your blueprints, specification sheets, or just the general idea. We'll work it out for you and send you a quote or the order—just the way you want it.

AETNAPLY PLUS VALUES

Over 50 species of Plywoods and Veneers Foreign and Domestic.

◆

Free Engineering Service to help you use plywood to your best advantage.

◆

24-hour Shipping Service.

◆

Direct mill shipments to your exact specifications.

◆

Other woodworking products: Glues, Sealers, etc.

WRITE AETNA for the RIGHT PLYWOOD

AETNA PLYWOOD & VENEER CO.

1718 N. Elston Avenue, Chicago 22, Illinois
ARmitage 6-7100

BRANCH WAREHOUSES: Grand Rapids 7, Mich.; Indianapolis 2, Ind.; Rockford, Ill.

PLYWOOD for every purpose — every industry

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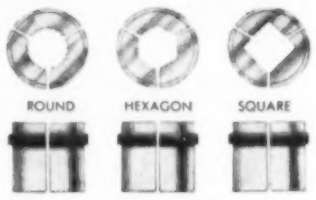
HARDINGE ELMIRA, N.Y.

Style "S"

SURE-GRIP Master Collets and Pads

Pads are interchangeable among different machines with same capacity. Available for all sizes of the following machines up to and including 3½" capacity:

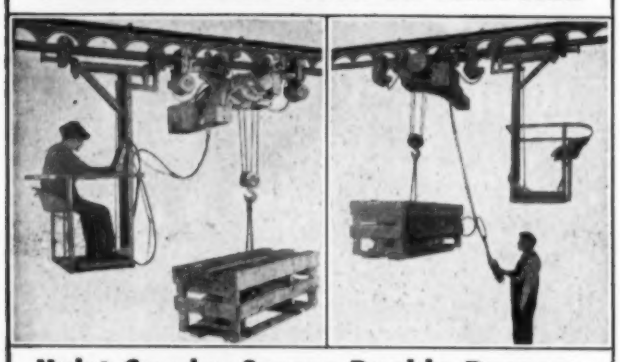


CLEVELAND
CONE
GREENLEE
GRIDLEY & ACME-GRIDLEY
NATIONAL ACME
NEW BRITAIN

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

For more details circle NED-679 C3 on enclosed inquiry slip

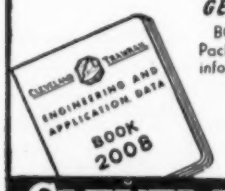
OPERATED FROM FLOOR OR PLATFORM



Hoist Carrier Serves Double Purpose

★ For distant runs the operator rides the platform. For local handling such as unloading trucks, he controls the unit from the floor. Also when the amount of materials to be handled requires two men, one can work on the floor and the other on the platform. ● This is only one of dozens of Cleveland Tramrail time-saving ideas.

GET THIS BOOK! BOOK No. 2008 Packed with valuable information . . .



CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6624 East 285th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL

For more details circle NED-680 C3 on enclosed inquiry slip

124,800 holes per day! . . . using six DUMORE Automatic Drill Heads

Parts are hand loaded in an automatic indexing rotary table with 24 stations. Peak production has reached 23,000 pieces.

A Dumore Precision Drill Grinder sharpens drills after a full day's production. Maximum drill life per grind has reached 23,000 holes.

Get amazing cost-reducing benefits with Dumore tools

ONE west-coast manufacturer uses six continuous running Dumore Automatic Drill Heads to drill tiny brass parts — 20,800 per head per day. Using a No. 71 drill (dia. .026") and hole depth of .069", this company reports amazingly high production, plus slashed costs of drill breakage, down-time and scrap loss.

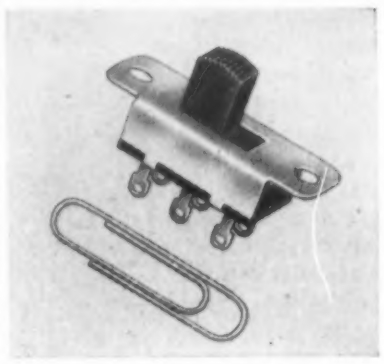
Amazing too, are the results they achieve using a Dumore Precision Drill Grinder to sharpen drills for this job. They actually get a full day of continuous production for every Dumore sharpened drill, without stopping to regrind.

Get all the information about these tools. Ask your nearby industrial distributor or write,

THE DUMORE COMPANY
1333 Seventeenth Street • Racine, Wisconsin

For more details circle NED-681 C3 on enclosed inquiry slip

MINIATURE SLIDE SWITCH
is double-pole double-throw type



Rated 0.5-amp at 125 v, miniature double-pole double-throw slide switch combines snap action with compactness for appliance, instrument and small equipment control. It measures 1⅜ in. long by 17/32-in. wide by 11/32-in. deep. Laminate Bakelite base minimizes arc tracking. Two types are available with and without Underwriters' Laboratories approval. Made by **Stackpole Carbon Co.**, Dept. NED, St. Marys, Pa.

For more details circle NED-682 C3 on enclosed inquiry slip

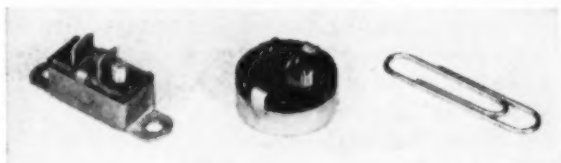
ELECTRONICS COURSE
46-lesson correspondence course

Employers who wish to provide specific training for key personnel or persons working on equipment dependent on electron tubes can take advantage of this course in industrial electronics. An entire section of the 46-lesson course is devoted to installation, maintenance and repair of electronic control equipment. Also covered are mathematics, basic electricity, radio theory, electrical calculations, chemistry and mechanics and electrical equipment. Estimated average study time required for completion of the course is 800 hours. Available from **International Correspondence Schools**, Box 1817, Scranton 9, Pa.

For more details circle NED-683 C3 on enclosed inquiry slip

MINIATURE CONTROL SWITCH
temperature adjustment 0 to 200° F

This miniature Thermoswitch, available in both rectangular and cylindrical models, precisely controls temperature and detects overheat in instruments and



mechanisms where minimum volume and weight are important. Temperature control to within 1° F is readily attainable. Either model can be set at any temperature from 0° to 200° F by turning adjusting screw. Control is maintained under vibrations of 5 g at 50 to 500 cycles/second. Models are rated 2.5 amp at 115 v ac or 2 amp at 28 v dc. Electrical contacts of both models open when temperature reaches set point. Various types of mountings are available. Made by **Fenwal, Inc.**, 70 Pleasant St., Ashland, Mass.

For more details circle NED-684 C3 on enclosed inquiry slip

LOW PRICED

Alligator Shear

Here is a low priced, fast operating "CANTON" Alligator Shear for processing light industrial scrap and for cutting metals. Cuts 2" square bars in mild steel or 3/8" x 24" in plates. Bronze bushed throughout with adjustable knife seat. Gasoline or electric power is optional.

CATALOG N-3 GIVES DETAILS

The HILL ACME CO.
"CANTON" DIVISION 1209 W. 65TH ST., CLEVELAND 2, OHIO

For more details circle NED-685 C3 on enclosed inquiry slip

No Packing! No Stalling!

Rotary drill masonry with carbide tipped Cyclo-Core or Cyclo-twist

REMOVABLE CYCLO-CENTER

Multiple spiral flutes, which run the full length of the shell, positively remove dust as it is pulverized. Removable Cyclo-Center for locating and starting holes. Recommended for hole sizes ¼" to 6" diameter in hard concrete, using electric rotary drill and applying pressure. Extra shank lengths available — all diameters.

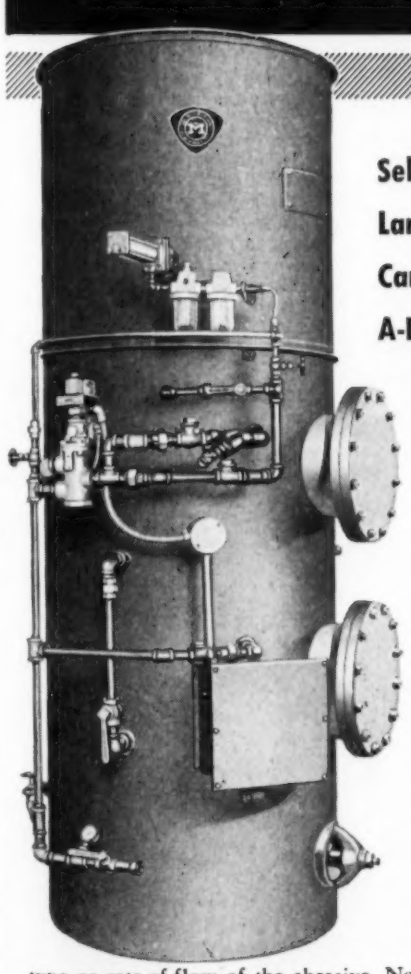
Twin spiral flutes remove dust speedily and surely. Carbide tip same diameter as body, no carbide hang-over — maximum strength. Recommended for hole sizes 3/16" to 1½" in soft or medium masonry material, using an electric rotary drill, drill press or hand brace. Extra length bits available up to 36" long.

By the makers of Thunder-twist and Thunder-Core Hammer Bits. *Send for new Masonry Drill Bit Guide — Helps you choose the RIGHT bit for EACH job!*

New England Carbide TOOL CO., INC.
60 BROOKLINE STREET, CAMBRIDGE 39, MASS.

For more details circle NED-686 C3 on enclosed inquiry slip

NEW! The Completely Automatic MACLEOD "AUTO-BLAST" ABRASIVE BLAST CLEANING MACHINE

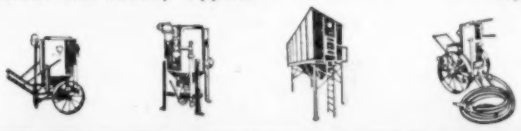


Self-Contained . . . Large Capacity . . . Can Give 24-Hours-A-Day Continuous Blasting If Required

A completely new Macleod engineering development. A double-chamber blast cleaning machine with a continuous blasting cycle — no shutdown time for reloading . . . greatly reduced labor costs. The refilling cycle is entirely automatic and does not depend on outside sources — such as a synchronized timing device, or motor - driven pumps or valves. The automatic cycle unit is built into the machine and is not influenced by the type or rate-of-flow of the abrasive. No interchangeable abrasive controls are required and the number and diameter of nozzles is no problem.

The Macleod "Auto-Blast" machine can be used with rooms, tables, barrels, or special automatic devices.

MACLEOD also manufactures other stationary and portable blast cleaning machines, dust arresters, cement placement equipment, tar kettles and foundry supplies. Dept. N.



The MACLEOD Company
2232 BOGEN ST., CINCINNATI 22, OHIO, U. S. A.
ESTABLISHED 1897

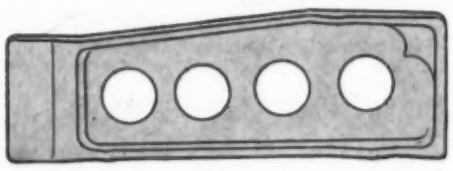
For more details circle NED-687 C3 on enclosed inquiry slip

MUELLER BRASS CO.

ALUMINUM FORGINGS

- STRONG AS STEEL BUT 1/3 THE WEIGHT.
- GOOD DIMENSIONAL STABILITY . . . MECHANICAL PROPERTIES RETAINED AT HIGH SPEEDS AND REASONABLE TEMPERATURES.
- REQUIRE LESS MACHINING AND FINISHING.
- FORGED TO YOUR SPECIFICATIONS.

MUELLER BRASS CO. • PORT HURON 27, MICHIGAN



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For more details circle NED-688 C3 on enclosed inquiry slip

SURE SIGN of bearing knowledge

When it's a question of bearing *replacement*, pick up your phone and call your SKF Distributor.

He has the *knowledge* to give you the right bearing—the one that'll get you going again and keep you that way.

Every SKF Distributor Salesman gets a continuing course in the care and application of anti-friction bearings, plus a continuing series of educational films which assure *you* that the man you call has the knowledge you expect.

SKF INDUSTRIES, INC., PHILA. 32, PA.—*manufacturers of* SKF *and* HESS-BRIGHT *bearings.* 7372

SKF® BALL AND ROLLER BEARINGS

For more details circle NED-689 C3 on enclosed inquiry slip

NOW . . . A COMPLETE FLOOR PATCH KIT!

EVERYTHING YOU NEED FOR REPAIRING Concrete or Asphalt Surfaces

- FLOORS
- TRUCKING AISLES
- LOADING DOCKS
- SIDEWALKS
- DRIVEWAYS

only $7.95* F.O.B. St. Louis

Anyone can apply. Easily trowelled to a smooth permanent patch.

Includes:

- Bitucote Floor Mastic
- Setting Powder
- Hard, Sharp Aggregate
- Instructions for Mixing and Applying

All packed in sturdy re-usable 5-gallon container

Discount on Larger Quantities

COMPACT! COMPLETE!

Available in two types:

TYPE M For Interior Patches. Dry Areas Only.

Type P For Exterior or Interior Patches Exposed to Moisture

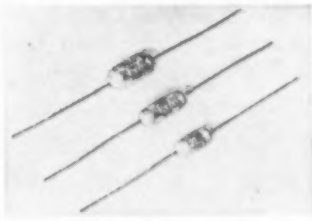
*ORDER TODAY. Send Check with Order. Satisfaction Guaranteed. Write for Literature.

Bitucote PRODUCTS Div. of BRIDGES PAVING CO.

1411 CENTRAL INDUSTRIAL DRIVE • ST. LOUIS 10, MO.

For more details circle NED-690 C3 on enclosed inquiry slip

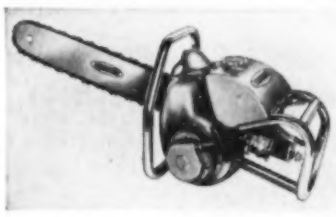
WIRE WOUND RESISTORS made in three lengths and diameters



Small size and light weight of Midget wire wound resistors make them self-supporting. Offered in ½ x 9/32-in., ¾ x 9/32-in. and ¾ x ⅜-in. sizes, they have axial wire leads which enable soldering directly into the circuit. The type C resistors are completely insulated and enclosed in a plastic jacket. Steatite winding forms have high insulation with low coefficient of expansion. Windings are protected against dust, salt spray, humidity and mechanical damage. Made by **Resistance Products Co.,** 714 Race St., Harrisburg 5, Pa.

For more details circle NED-691 C3 on enclosed inquiry slip

CHAIN SAW improved for operating ease



An automatic oil shut-off and a chain tension adjustment are features of this model 3A Woodlot Wonder gasoline engine driven chain saw. Other advantages include attachment of carburetor directly to crankcase for compactness and efficiency. Spike bumper-grip design allows straight limbering cuts from any angle plus close-to-ground cutting for maximum log-length and minimum stumpage. Made by **Lombard Governor Corp.,** 150 Main St., Ashland, Mass.

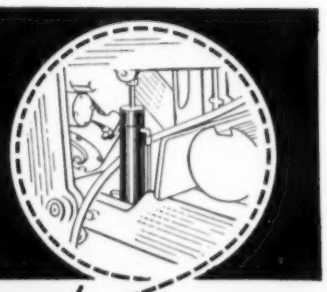
For more details circle NED-692 C3 on enclosed inquiry slip

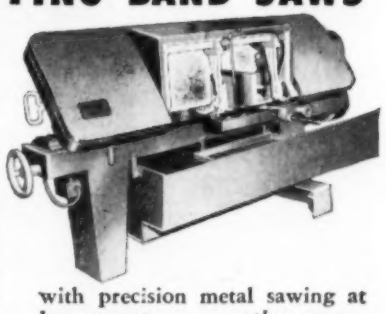
PLATFORM LADDER made in 3 to 8-ft heights

Wide safety-tread steps, large nonslip working platform, non-swivel ball bearing casters and corrugated rubber safety shoes are features of the model 700 platform stand. Heights from 3 to 8 ft are made, with weights ranging from 32 to 57 lb. Units are easily moved, have a removable platform back rail and feature riveted aluminum construction. Use can be in warehouse, stock room, plant maintenance and machine repair. Made by **Metallic Ladder Mfg. Corp.,** 6 Sheldon St., Randolph, N. Y.

For more details circle NED-693 C3 on enclosed inquiry slip

You can CUT THIN WALL SECTIONS BETTER with Kalamazoo METAL CUTTING BAND SAWS





Why? Because Kalamazoo's hydraulic frame control is co-ordinated with the feed control to give just the right blade pressure for smoothest, most accurate cutting of tubing and thin wall sections. In addition, the saw frame cannot drop accidentally and damage material or saw blade. Yes . . . here's *another* reason why Kalamazoo is synonomous with precision metal sawing at lowest cost . . . *another* reason why it will pay you to specify Kalamazoo Metal Cutting Band Saws. Three models, all available with coolant system and casters.

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

312 HARRISON ST., KALAMAZOO, MICHIGAN

For more details circle NED-694 C3 on enclosed inquiry slip

P&S® Turnlok®

for positive electrical connections

DESIGNED FOR EASY WIRING . . . BUILT TO RIGID QUALITY STANDARDS

- Back or Side-Wiring Terminals
- Handy Strip Gauge on Back
- Large Head Terminal Screws
- Plaster Ears
- Sturdy Two-Piece Body for Ultimate Safety
- Heavy "Contour-Controlled" Contacts for Positive Grip

Note—Ampere Rating Plainly Visible on Face.

P&S TURNLOK Available in 2, 3 and 4-Wire 10 and 20 Ampere Receptacles, Connectors and Caps.

Write Dept. N for Catalog No. 49

PASS & SEYMOUR, INC.

SOLVAY STATION • SYRACUSE 9, N. Y.

THE BEST COSTS LESS in the long run

For more details circle NED-695 C3 on enclosed inquiry slip

HANDLING "TOUGH" MATERIALS?—

A 60' Carrier Natural-Frequency screening conveyor for clay products, with 24" pan made of ¼" steel plate. Capacity: 100 tons of 100-pound material per hour. 5 H.P. drive. Middle section of screen removed to show supporting bridge.

Close-up of drive—note patented drive linkage which always places weight of vibrating pan and conveyed materials on the spring supports, and never allows these loads to be imposed on the eccentric shaft and bearings.

Handling anything hot, sharp, powdered, oily, abrasive, sticky, granulated or stringy?

Carrier Natural-Frequency Conveyors work on a unique, patented vibrating principle which permits them to handle many materials that are too "tough" for most screw, belt, apron, vibrating and other conventional types of conveyors. These spectacular new conveyors also substitute the natural resonance action of coil springs for brute force. Result—*a tremendous reduction in power . . . far less wear-and-tear . . . and an absolute minimum of maintenance and down-time!*

Carrier Natural-Frequency Conveyors—including vertical vibrating spiral types—are now racking up amazing conveying records for scores of America's biggest, most successful industrials. Let us prove to you that they will move *your* product more quickly, efficiently and economically. *Write for Bulletin 118—no obligation of course!* Carrier Conveyor Corporation, Frankfort Avenue at Clifton, Louisville 6, Kentucky.

CHECK THESE ADVANTAGES!

LESS POWER REQUIRED
(1000 foot-tons per hour per H.P.)

LESS MAINTENANCE & DOWN-TIME
(Less power + good design = good service)

GREATER CAPACITY
(From a dribble up to 200 tons per hour)

HIGH CONVEYING SPEED
(Up to 100 feet per minute, on flat hauls)

NO DAMPENING UNDER LOAD
(Designed with extra power for specified load, with positive stroke)

SELF-CLEANING
(Continuous smooth trough — no pockets)

SCREENS, DEWATERS, SEPARATES, BLENDS, DRIES, COOLS
(Combines processing with conveying)

WIDTHS FROM 6" TO 48"; LENGTHS FROM 5' ON UP
(With pans 16 gauge to ½" plate or heavier, open or enclosed)

BALANCED, VIBRATION-FREE UNITS AVAILABLE
(For use on ceilings or light floor construction)

CARRIER ~~NATURAL-FREQUENCY~~ CONVEYORS

For more details circle NED-696 C3 on enclosed inquiry slip

Grounds upkeep and maintenance problems are solved quickly, easily and BETTER when you use the powerful 5-HP Gravely Tractor! . . . 20 tools for year-round use with seasonally selected attachments, quick change from job to job in minutes! Only the Gravely does so many jobs so well!

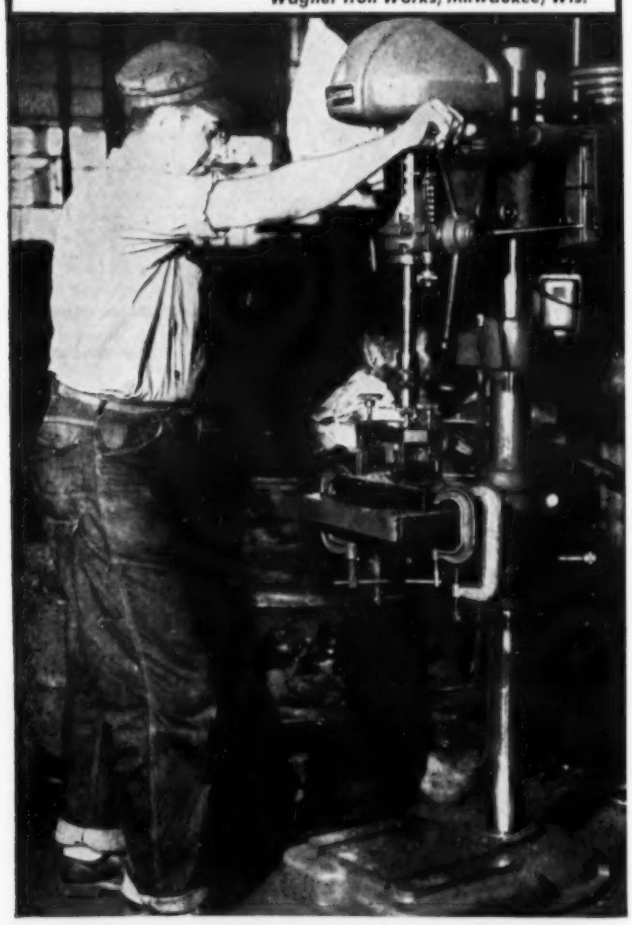
All-Gear Drive, Power Reverse. Institutions-tested for 31 years . . . Ask for your copy of FREE Gravely catalog. "Power vs. Drudgery." Find out how you can do MORE jobs faster and better. Write today!

GRAVELY TRACTORS, INC.
BOX 380 DUNBAR, WEST VIRGINIA

▲ For more details circle NED-697 C3 on enclosed inquiry slip ▲

"RELEASED A $12,000 MACHINE"

Wagner Iron Works, Milwaukee, Wis.



CLAUSING

18" HEAVY-DUTY DRILL PRESS

In plant after plant this 18" Clausing drill steps in to crack tough drilling problems, release expensive machines for other work, and boost production!

There's good reason for it. Clausing starts with more massive construction from head to base, and the dependability of a 4 ball bearing equipped drive and spindle (one with double race). Bigger 6³⁄₁₆" diameter spindle with full 6½" travel, and greater distance to the table, means *larger tool as well as job capacities* — more efficient use of production chucks. Vernier control provides .001" depth accuracy. Quick-positioning mechanism moves *both* head and table. Available with or without power feed.

This is just a quick briefing on the Clausing 18" heavy-duty drill press. Your Atlas-Clausing distributor will gladly give you the *full* story. Or write today for catalog.

CLAUSING DIVISION
ATLAS PRESS COMPANY
3113 N. PITCHER ST. • KALAMAZOO, MICH.

▲ For more details circle NED-698 C3 on enclosed inquiry slip ▲

FLASHING BULLETIN BOARD
assures attention to messages

Safety posters, plant messages, pictures and other material are brought to life when they are inserted between the two double glass panels of this flashing bulletin board. It consists of angle case which accommodates two 8½ x 11½ in. posters or other sheets. Flashing unit on 40-w lamp flashes approximately 15 times each minute. Unit can be suspended on any vertical surface and plugs into lighting outlet. Available from **Industrial Products Co.,** 2807 N. Fourth St., Philadelphia 33, Pa.

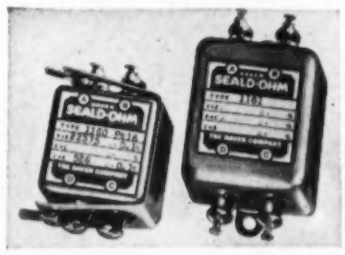
▲ For more details circle NED-699 C3 on enclosed inquiry slip ▲

CONVEYOR WEIGHING SYSTEM
totals and records tons per hour

Belt-conveyor materials of all types can be weighed continuously by this conveyor belt weighing system which electronically adds, subtracts and records tons per hour. Running measurements as well as total tonnage delivered over period of time are provided. Measurements can be transmitted over considerable distances either to an office or central control panel board. If one large belt supplies several other belts at different places along its length, the system can add and subtract to measure the quantity supplied to any or all belts. It can also control blending of several different materials on a belt. Developed by Trans-Weigh Co., Wayne, Pa., and **Minneapolis-Honeywell Regulator Co.,** Industrial Div., Wayne & Roberts Aves., Philadelphia 44, Pa.

▲ For more details circle NED-700 C3 on enclosed inquiry slip ▲

SEALED RESISTORS
are shock and corrosion resistant



Series 1160 and 1161 resistors are hermetically sealed and feature shock resistant construction and protection from corrosion, fungus and other harmful effects of extreme humidity and temperature. They are intended for use as secondary standards, resistor elements in bridge networks, in voltage divider circuits and other uses. Windings, either spool or card type, are supplied with various types of wire. Windings are stable and accurate to plus or minus 0.05-per cent. Spool type resistors are noninductively wound, while card type windings have frequency range limited by design, usually from 0 to 10 mc. Resistor elements are mounted in a drawn brass case and connections are brought out through fused glass seals. Made by **Daven Co.,** Dept. HR, 191 Central Ave., Newark 4, N. J.

▲ For more details circle NED-701 C3 on enclosed inquiry slip ▲

ROLL MARKER
for automatic screw machine

Elimination of a separate parts marking setup is accomplished on this six-spindle Greenlee automatic screw machine by using model 500-C automatic roll marker in the fourth position to mark parts during machine cycle. A 17-figure patent number plus a trade mark are imprinted legibly in 3/32-in. characters on aircraft hydraulic hose coupling nipples by the marker which advances, marks the part, withdraws and then resets ready for next part. This machine has printed well over 270,000 nipples from standard screw stock without noticeable wear of the roll marker die. Roll marker as well as dies are made by **New Method Steel Stamps, Inc.,** 147 Jos. Campau St., Detroit 7, Mich.

▲ For more details circle NED-702 C3 on enclosed inquiry slip ▲

BREEZE *Job-Engineered* **BELLOWS**

ANOTHER BREEZE MARK PRODUCT

...Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

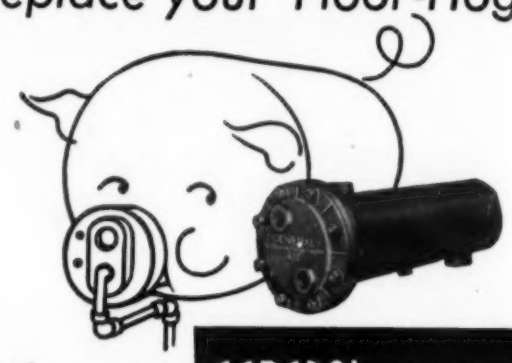
Feel free to consult us without obligation on your existing bellows requirements, or any other project where reliable welded diaphragm type bellows might solve a design problem.

BREEZE CORPORATIONS, INC.
41-S. Sixth St., Newark 17, N.J.

OTHER BREEZE PRODUCTS: ACTUATORS · RADIO SHIELDING · AERO-SEAL HOSE CLAMPS

▲ For more details circle NED-703 C3 on enclosed inquiry slip ▲

Replace your "Floor-Hog"...



with a compact **GENERAL** Instantaneous Water Heater

Here's a dependable, continuous water heating unit you can install in a fraction of the space required by storage tanks. You can even install it overhead.

GENERAL Instantaneous Heaters cost less . . . less to buy, install, and maintain. Just tap into live or exhaust steam lines . . . no excavating, no complicated piping.

Rust-free, piping-hot water delivered through seamless copper tubing . . . outlives other systems.

20 sizes—largest, only 21" x 84", delivers 300 gpm. Investigate *all* the advantages of GENERAL Instantaneous Heaters. Write: General Fittings Co., Dept. J, 123 Gerogia Ave., Providence 5, R. I.

GENERAL GF
TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

▲ For more details circle NED-704 C3 on enclosed inquiry slip ▲

Because the end plugs are tapped for universal mounting, any one type or combination of mounting brackets can be used to install an O-M Cylinder . . . *without disassembling or changing the cylinder.* Interlocking mechanism eliminates projecting end caps and tie rods, assuring better alignment and friction-free performance. Thus, O-M Cylinders fit where others won't . . . require ⅓ less space than conventional type cylinders of the same bore . . . are easily removed, inspected, repaired.

Available in a full range of sizes (1½" to 8" bores) with standard, 2 to 1 or oversize rods. All machined steel with bearing bronze, no castings. Completely interchangeable parts. Write today for FREE catalog and complete set of ½ and ¼-scale templates showing all cylinders and mounting brackets.

FREE CATALOG and Templates

ORTMAN-MILLER MACHINE CO.
1222 150th St. Hammond, Indiana

▲ For more details circle NED-705 C3 on enclosed inquiry slip ▲

Save BIG MONEY ON BABBITT by using PROMET XXX LONG SERVICE LEAD BASE BABBITT

A fine, velvety grain babbitt made entirely from pure virgin metals, perfectly alloyed and heat treated to withstand tremendous loads at high speeds and elevated temperatures that would be dangerous with other babbitts.

Tensile 10,000
Elong 5.5%
Compress Strength 10,000

Promet XXX will not score, cut or powder even in lubrication failures. The coefficient of friction is considerably less than that of tin babbitts, thus reducing power loss and wear. The entire bearing surface wears uniformly, without pitting.

Simply heat to 900°-1000° F. and pour. Can be heated to 2000° F. without burning or injury. Repouring only refines it. There is no appreciable shrinkage, hence a better contact with supporting shell, a more solid, rigid bearing.

Ideal for use in blowers, cement mills, clay working machines, compressors, conveyors, crushing machinery, diesel engines, dredges, fans, machine tools, mining machinery, motors and generators, paper mills, pumps, rock and gravel plants, saws, steel mill bearings and sugar mills.

Supplied in 10 lb. pigs.

IMMEDIATE DELIVERY

Write today for service data sheets and quotations.

THE AMERICAN CRUCIBLE PRODUCTS CO.
1327 Oberlin Avenue Lorain, Ohio, U.S.A.

For more details circle NED-706 C3 on enclosed inquiry slip

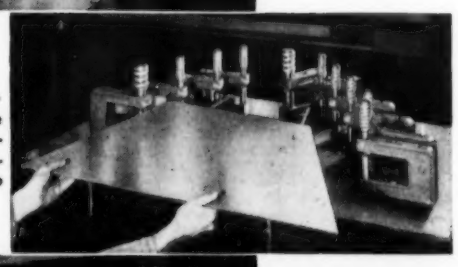
PUNCHING 1/8", 1/4" AND 3/4" THICK METAL ?

standardize on

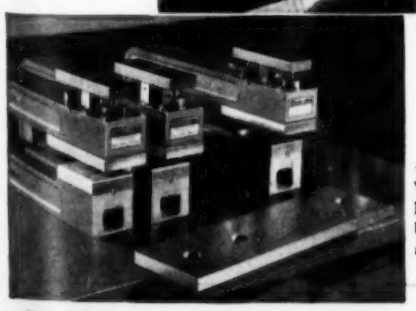
WALES

Hole Punching Units

Showing Wales Type "BL" Hole Punching and Type "N" Notching Units in a combination press brake setup for punching and notching mild steel up to 1/8" THICK.



A stamping press setup of Wales Type "CJ" Hole Punching Units for punching mild steel up to 1/4" THICK.



Showing a setup of Wales Type "HS" Hole Punching Units in a press brake for punching mild steel up to 3/4" THICK.

Only Wales Hole Punching and Notching Units provide the numerous *patented features* plus the *time and cost saving advantages* that have made it "standard practice" with thousands of metal fabricators to *standardize* on this *exclusive* equipment.

Wales independent, self-contained Units eliminate costly, single-purpose custom dies, reduce expensive setup time and practically eliminate press "downtime."

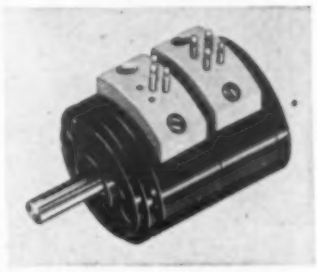
The same group of Wales Units may be interchangeably set up in stamping presses and press brakes. In many cases, setups of Wales Units are in production the same day a hole punching pattern is released by your engineering department.

The multiple advantages of Wales Hole Punching and Notching Equipment are too MANY to tell here, so write for fully-illustrated, functionally colored catalogs TODAY.

WALES-STRIPPIT CORPORATION
George F. Wales, *Chairman*
363 Payne Avenue, North Tonawanda, N. Y.
(Between Buffalo and Niagara Falls)
Wales-Strippit of Canada, Ltd., Hamilton, Ontario
Specialists in Punching and Notching Equipment

For more details circle NED-707 C3 on enclosed inquiry slip

MULTIPLE-SECTION POTENTIOMETER
from one to six sections available



From one to six section assemblies are available in this 1⅛-in. diameter potentiometer which requires a 0.6 oz-in. operating torque for a six-section unit. Assembly is made without external clamps or bolts, and a solid stainless steel shaft is used to couple the movable arms of each section. Mechanical shaft rotation is 360 degrees continuous. Resistances from 500 to 70,000 ohms per section are available, and each section will dissipate 2 w at 25° C. Linearity tolerance is plus or minus 0.5 per cent for each section. Nonlinear outputs can be obtained. Unit operates in temperatures from −54° to 71° C and under 50 g acceleration applied along any axis. Ball bearings assure long life. Made by **G. M. Giannini & Co.**, 590 S. Fair Oaks Ave., Pasadena 1, Calif.

For more details circle NED-708 C3 on enclosed inquiry slip

MICROFILMER
records 8-mm size on 16-mm film

Capable of microfilming documents at reduction ratios of 36 to 1, model JT Junior microfilmer produces double row of 8-mm images on 16-mm film. Because of unique arrangement of twin lenses, checks or reference cards can be photographed so that front and back images appear side-by-side on the film. Operating economy and ease of use are features. Priced at $1550, unit can also be rented for $25 per month from **Recordak Corp.**, 444 Madison Ave., New York 22, N. Y.

For more details circle NED-709 C3 on enclosed inquiry slip

SEALED RELAY
is compact and lightweight

Fifty per cent smaller and lighter than AN 3304-1 units of which it is the electrical and mechanical equivalent, series 22300 relay is hermetically sealed. Improved armature design plus molded nylon bobbin are features. Palladium cross-bar contacts identical with those of larger telephone type relays are retained. Maximum contacts are 6 form A or 4 form C rated 3 amp 28 v dc. Maximum coil resistance is 5000 ohms and minimum operating power is 0.75-w for 4 form C contact unit. Made by **Essex Wire Corp.**, R-B-M Div., Hanna St., Logansport, Ind.

For more details circle NED-710 C3 on enclosed inquiry slip

KAMLOK
COUPLING ASSEMBLIES

The Fastest, Surest Coupling Known

KAMLOK Couplings combine *speed, perfect performance, durability*—three features that are indispensable. *Fastest!* Perfectly tight, safe connection *in seconds*, by sliding coupler over adaptor, and pressing cam levers. KAMLOKS couple and uncouple *instantly*, regardless of "hookup." *Efficient!* No wasted *time—effort*, achieving leakproof-tight connection that guarantees consistently safe operation at peak efficiency. *Long-lasting!* Made of hard wear-resistant bronze to 3". 4" size of OPALUMIN, as strong as bronze, only ⅓ the weight. KAMLOKS add extra life to hose.

Write for Bulletin F-3

OPW CORPORATION
VALVES, FITTINGS, ASSEMBLIES
for handling hazardous liquids
2729 COLERAIN AVE. • CINCINNATI 25, OHIO

For more details circle NED-711 C3 on enclosed inquiry slip

NEW...SAVES MONEY IN HIGH BAYS

Amplex R-57 lamp never needs cleaning despite smoke and dust

AMPLEX R-57 LAMP is designed for continuous maximum light output in high bays. Its unique shape and *pure silver*, sealed-in reflector abolish all need for cleaning and for auxiliary reflectors . . . grime and dust never obscure the under surface from which light is projected. Available in 500 and 750 wattages. Save money! Write for full facts. **Amplex Corporation, Dept. H-3, 111 Water St., Brooklyn 1, N. Y.**

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlites and Floodlites, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

For more details circle NED-712 C3 on enclosed inquiry slip

Shredded Paper

IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

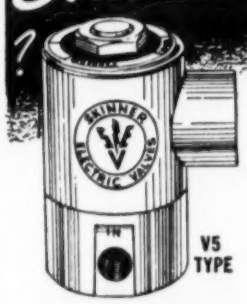
(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing *today* to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-713 C3 on enclosed inquiry slip

Solenoid Valve Problem?



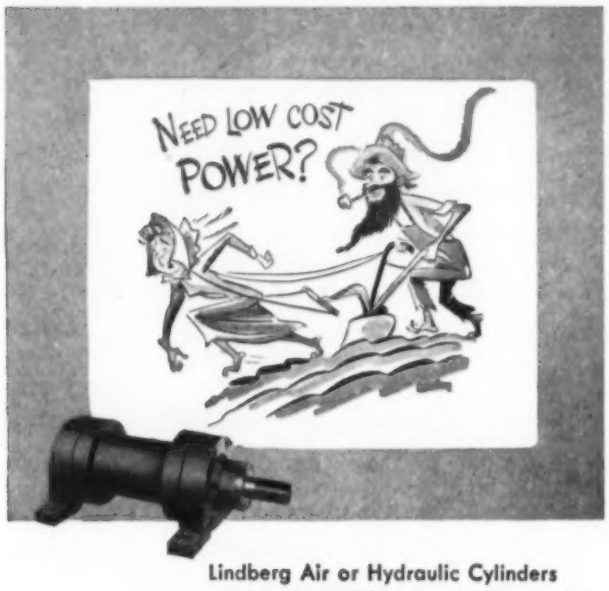
V5 TYPE

A Standard Skinner may fill the bill!

Standard V5 Skinner stainless steel solenoid valves, either 2 or 3 way, are available with dozens of options to meet special needs for control of liquid or gaseous media. Such options include *by-pass, metering, manual override, various electrical connections and port locations, manual reset, etc.* Standard valves from 5 to 250 p.s.i.—specials from 5 to 1500 p.s.i. Power consumption, 10 watts max. Soft insert seats prevent leakage, and spring loading assures positive action. Large capacity, yet only 2¾" high x 1⅝" dia. Send your standard or special requirements to Skinner—write for Bulletin 501 for complete details.

***Skinner* ELECTRIC VALVE DIV.**
THE SKINNER CHUCK COMPANY
112 Edgewood Ave., New Britain, Conn.

For more details circle NED-714 C3 on enclosed inquiry slip



Lindberg Air or Hydraulic Cylinders provide dependable, low cost power for lifting, forcing, pulling, pressing, pushing and clamping. Ask for bulletin No. 701, "Lindberg Hydraulic Cylinders" . . or No. 731, "Lindberg Air Cylinders."

LINDBERG CYLINDERS AIR•HYDRAULIC

Lindberg Engineering Company, 2482 West Hubbard St., Chicago 12, Ill.

For more details circle NED-715 C3 on enclosed inquiry slip

LIKE AN ATOM-IC EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:*

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:

$88.91 if coal (9879 lbs.) †
$91.08 if oil (792 gals.) †
$84.41 if gas (84,411 cu. ft.) †

Above figures authenticated by Hackensack Water Co.* and American Gas Association.†

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300°F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG, Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. AU 33, 2503-05 Third Avenue, New York 51.

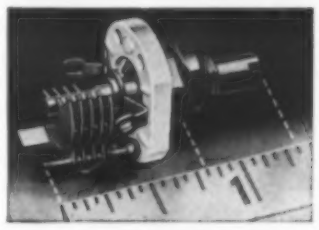
as advertised in THE SATURDAY EVENING POST

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-716 C3 on enclosed inquiry slip

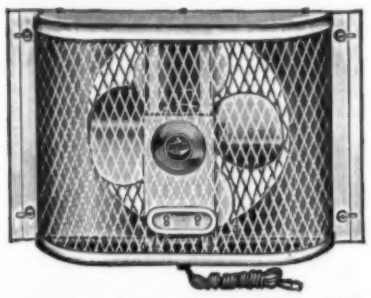
MINIATURE CAPACITOR has soldered rotor and stator



Keeping pace with the miniaturization of electronic components is the type MAC variable capacitor which has the low minimum capacity required for use as a trimmer in the VHF range. Its silicone treated steatite base measures ¾ x ⅝-in. Rotor and stator are soldered assemblies of brass. Silver plated beryllium-copper wiper rotor contact is used on units, available for capacity requirements between 1.4 and 19.6 mmf. Made by **Hammarlund Mfg. Co.,** Dept. 12, 460 W. 34th St., New York 1, N. Y.

For more details circle NED-717 C3 on enclosed inquiry slip

REVERSIBLE WINDOW FANS made in 16 and 20-in. models

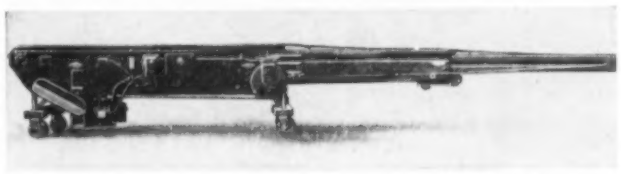


Direction of rotation is reversed at flip of the switch for blowing or exhausting of air with this reversible window fan made in both 16 and 20-in. models. Both fans have two-speed capacitor motor and balanced blades that assure maximum air flow. Adjustable panels and mounting chains permit installation in windows from 16 to 29 in. wide for the 16-in. fan and in windows 20 to 29 in. wide for 20-in. model. Smaller unit delivers 2000 cfm and larger unit, up to 3200 cfm. Made by **Emerson Electric Mfg. Co.,** 8108 Florissant Ave., St. Louis 21, Mo.

For more details circle NED-718 C3 on enclosed inquiry slip

EXTENSION BOOM CONVEYOR length is adjustable as desired

Open length of this double-boom Adjustoveyor is 2.2 times its closed length. Completely counterbalanced for ease of handling, this adjustable length conveyor



can be extended or withdrawn at will. It is designed to carry loads of 50 to 100 lb per ft, depending upon model. Power-operated double boom will carry full loads, even when extended. Sizes available are 8 to 25 ft closed and 16 to 61 ft open. Extension is pushbutton controlled. Belt speeds are variable, either forward or reverse. Made by **Stewart-Glapat Corp.,** 1639-A Moxahala Ave., Zanesville, O.

For more details circle NED-719 C3 on enclosed inquiry slip

Their Good Looks Help Sell Your Original Equipment!

PIC STEEL UNIONS

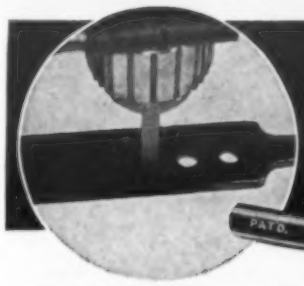
You get eye-catching brightness as well as strength with a Pic—the 150 lb. steel union that's tailor-made for makers of original equipment. Ends are uniformly flat-sided for speedy installing with open end wrenches and the steel pipe coupling stock can take the most punishing wrenching. Special wedge-type bronze seat locks the union tight. Complete zinc plating (even on threads) says "no!" to rust. The cost? *Less* than a galvanized, *no more* than a black malleable union.

Write for Free Samples!

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R. I.

For more details circle NED-720 C3 on enclosed inquiry slip

Drill Hardened Steels without Annealing—



USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

For more details circle NED-721 C3 on enclosed inquiry slip

NEW DENISON Flow Control Valves

Optional range of minimum-maximum adjustment — to 3000 psi — without changing spools.

Now you can have full-scale regulation of your adjustable speed circuits *regardless of pump delivery.* Denison Flow Control Valves adjust easily to various pump deliveries *without changing spools.* Simplified, cartridge-type single-spool design . . . ideal for meter-in, bleed-off and other operations at all circuit pressures to 3000 psi. *For extra safety,* valve bodies are built to withstand 5000 psi. Twelve models, 2-port and 3-port types, with or without built-in check, in sizes ¼", ⅜" and ¾". 0 to 28 gpm capacities. Write for details!

"The Finest Money Can Buy!"

Pumps, Pumping Units, Fluid Motors, Controls

DENISON HydrOIL ics

The DENISON Engineering Company
1151 Dublin Road
Columbus 16, Ohio

For more details circle NED-722 C3 on enclosed inquiry slip

TEDIOUS JOBS MADE EASIER

HOT PITS

FLY ASH

with SPENCER HARTFORD VACUUM

Tedious—and expensive jobs are eliminated in more than 100 ways with Spencer Vacuum. Hundreds of special vacuum tools have been devised—for vacuum units ranging from 1½ to 100 HP. Smaller sizes for your offices.

You can reclaim materials, remove liquids, vapors, and the finest dusts and speed up your assembly and inspection lines with Spencer Vacuum. Our representative near you has information of value on these subjects.

ASK FOR BULLETIN No. 144

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

466-L

For more details circle NED-723 C3 on enclosed inquiry slip

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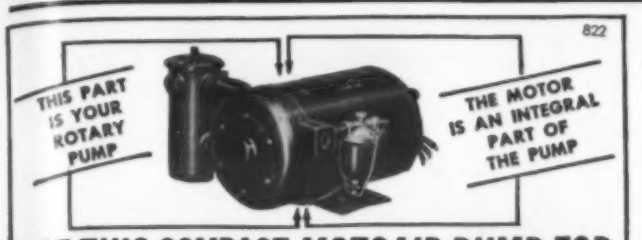
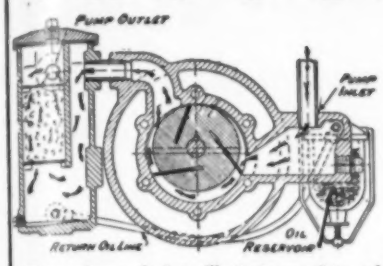


USE THIS COMPACT MOTOAIR PUMP FOR

VACUUM

AVAILABLE IN SEVERAL SIZES



No other pump, so compact, provides such dependable vacuum in so little space. Less parts to wear because

NO BELTS
NO GEARS

VISIBLE LUBRICATION

The unique design illustrates points which appeal to machine designers. Used for years on packaging and graphic arts equipment, web-guiding, etc.

Write for Catalog—

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI
LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-724 C3 on enclosed inquiry slip

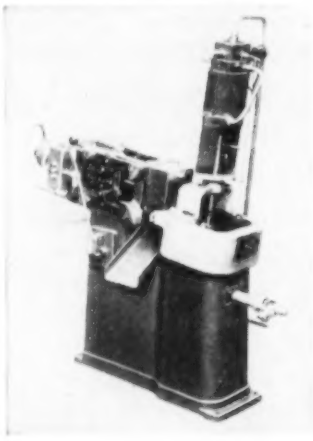
SAFETY ELEVATOR DOOR CONTROL stops and reverses doors if they approach within 3 in. of passenger

Complete passenger safety on automatic operatorless elevators is provided by electronic reversal device which stops or reverses the closing door before it can strike an entering or departing passenger. Unit detects an object at any height. Unnecessary interruptions in door closing are avoided because the field of influence does not extend all the way across the threshold.

If a passenger starts to enter a car while the door is closing, but gets in before the door edge comes within a predetermined distance of him, the door will continue to close without interruption. If the passenger continues to stand in the doorway, the door will begin to close and will reopen when it approaches the passenger. This cycle repeats several times. If the passenger continues to stand in the doorway, the reversal device is automatically but temporarily taken out of the circuit. The door then closes at slow speed and gently "nudges" the passenger out of the way and sounds a warning buzzer at the same time. This electronic detector is made by **Otis Elevator Co.**, 260 Eleventh Ave., New York 1, N. Y.

For more details circle NED-726 C3 on enclosed inquiry slip

DIE CASTING MACHINE has high speed impact injection

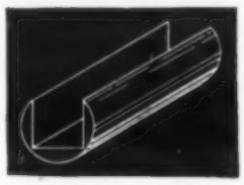


High speed, high pressure injection is afforded by IMP/96 1-lb zinc alloy die casting machine which features impact type system in which piston area for injection is much larger than area for piston return. No cushioning effect from air trapped underneath piston is experienced. Main valve is pilot operated type so that no throttling effect is undergone by air going into injection cylinder. Production runs of 800 to 1000 shots per hour can be obtained. Machine is designed to use small prefabricated die blocks, completely machined except for cavity itself. It weighs 470 lb and occupies 12 x 36-in. floor space. Made by **DCMT Sales Corp.**, Dept. NE, 164 Duane St., New York 13, N. Y.

For more details circle NED-727 C3 on enclosed inquiry slip

Lower TOOLING COSTS WITH SLOTTED SLEEVES

An Easy Method of Installing Tool Bits In Boring Bars, Tool Holders and Cutter Heads



No longer is it necessary to spend hours in filing square or rectangular holes when installing tool bits in boring bars, tool holders and cutter heads. With "Novi" Slotted Sleeves, you just ream a hole to fit the sleeve. Then drill and tap two more holes—one to hold the tool in place and the other for adjustment. All done in a matter of minutes!

Made in sizes for tool bits 3/16" to 1" wide and 1" to 4" long

See Your Local Distributor or Write for Literature

NOVI TOOL & MACHINE CO.
43043 Grand River Novi, Mich.

Novi SLOTTED SLEEVES

For more details circle NED-729 C3 on enclosed inquiry slip

JOHNSON UNIVERSAL BRONZE IS PRACTICAL FOR Many PARTS

Completely machined from end to end, these bars are available in over 400 sizes. You can see why they are used for many industrial parts besides bearings, bushings and washers. They are free cutting with ordinary tools . . . are non-sparking and corrosion resistant. Johnson Universal Bronze Bars, solid and cored, are available at your nearby Johnson Distributor's.

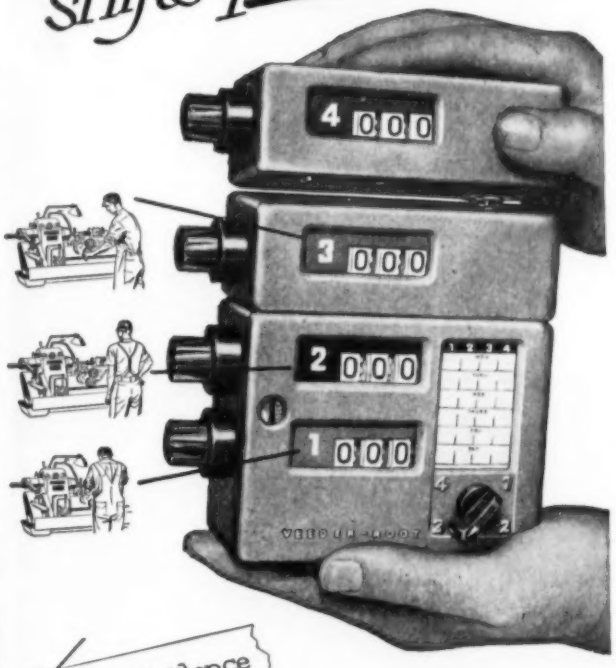
JOHNSON BRONZE COMPANY
580 S. Mill Street • New Castle, Pa.

JOHNSON B BEARINGS
Sleeve-Type

Write for folder, "What Do You Do with Bronze Bars?"

For more details circle NED-730 C3 on enclosed inquiry slip

It keeps a Separate Count of each shift's production!



Added Evidence that

Everyone Can Count on

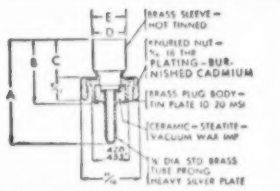
VEEDER-ROOT

Here's a counter whose "count-ability" challenges your imagination. For this counter records, on a separate counting unit, the production of 1, 2, 3, or more shifts. The additional 4th unit can be used as a run or batch counter. These Veeder-Root 2-3-4 Convertible Shift Counters are applicable to a wide variety of production machines, to count in practically any unit desired . . . revs, strokes, pieces, or what do *you* want to count? *Write:*

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

For more details circle NED-725 C3 on enclosed inquiry slip

Ideal for
• ANTENNA CONNECTIONS
PHOTO-CELL WORK
MICROPHONE CONNECTIONS



SUPPLIED IN 1 & 2 CONTACT TYPES

JONES
SHIELDED TYPE
PLUGS & SOCKETS

LOW LOSS PLUGS AND SOCKETS FOR HIGH FREQUENCY CONNECTIONS

For quality construction thruout, and fine finish, see diagram above.

101 Series furnished with ¼", .290", 5/16", ⅜", or ½" ferrule for cable entrance. Knurled nut securely fastens unit together. Plugs have ceramic insulation; sockets bakelite. *Assembly meets Navy specifications.*

202 Series Phosphor bronze knife-switch type socket contacts engage both sides of flat plug contacts—double contact area. Plugs and sockets have molded bakelite insulation.

For full details and engineering data ask for Jones Catalog No. 17

JONES MEANS PROVEN QUALITY

HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP

For more details circle NED-728 C3 on enclosed inquiry slip

THIS Free SAMPLE KIT

Will show you how to:

• Increase your production
• Prevent scoring and seizing
• Protect bearing surfaces better

CMD ANTI-SCORING LUBRICANT

Here is a free sample kit of CMD Anti-Scoring Lubricants, designed for *your* use on *your* machines so that you can see how it will help increase production by preventing costly shutdowns. Also CMD lubricants positively prevent seizing, galling, scoring and are non-corrosive. Any bearing surface is absolutely protected with CMD. Send for your free kit and use CMD on lathe centers, steady rests, cams, taps and in many other applications where positive lubrication is demanded under high pressures. Do it today and see if you don't think CMD is tops!

Use it for
LATHE CENTERS
DIE SET POSTS
MACHINE WAYS
THRUST BEARINGS
CAMS—DIES—TAPS
GRINDING CENTERS
MILLING MACHINES

FREE SAMPLE KIT

Please send, under no obligation to me, Free Sample kit No. 23 containing CMD Lubricants.

Name _____
Company Name _____
Address _____
City _____ State _____

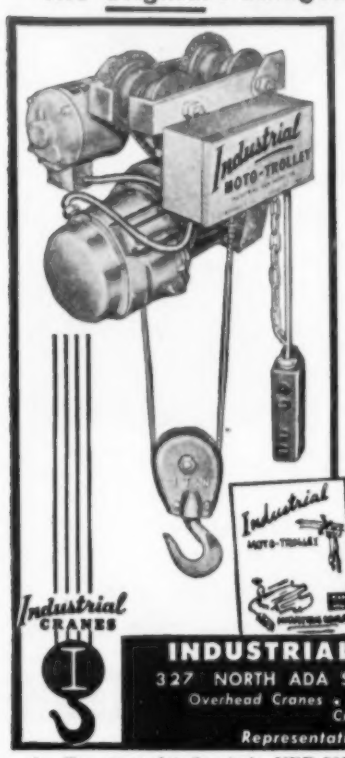
Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

For more details circle NED-731 C3 on enclosed inquiry slip

Industrial MOTO-TROLLEY

The Original Packaged Motor Driven Trolley



MAY BE ATTACHED TO YOUR STANDARD ELECTRIC HOIST . . .

Adjustable to Accommodate Wide Variety of Beam Sizes

- Crown-tread machine steel wheels with hardened drivers.
- Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.
- Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.
- Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.
- 4-button control station operates single speed trolley and hoist motions.

Write for Literature

Industrial CRANES

INDUSTRIAL EQUIPMENT CO.
327 NORTH ADA STREET CHICAGO 7, ILLINOIS
Overhead Cranes • Jib Cranes • Monorail Systems
Crane Runways
Representatives in Principal Cities

For more details circle **NED-732 C3** on enclosed inquiry slip

16 MECHANICAL FUNCTIONS OF FELT

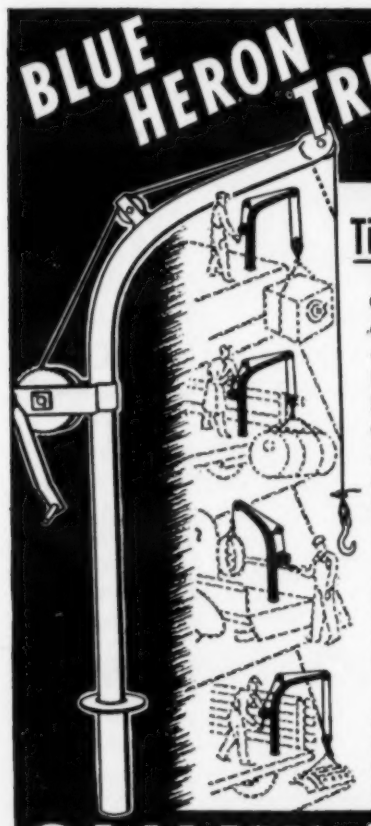
- SEALING
- WICKING
- WIPING
- POLISHING
- VIBRATION CONTROL
- FILTRATION
- SOUND ABSORPTION
- THERMAL INSULATION
- SHOCK ABSORPTION
- CUSHIONING
- MOISTENING
- PADDING
- PACKAGING
- SURFACING
- FRICTIONAL
- PERCUSSION

These are but a few of the important mechanical functions fulfilled by Felt. Advanced fibre technology and research in American Felt Company Laboratories has led to many new applications where special properties and accurate specification control were needed. An experienced engineering and development staff is ready to assist you by furnishing full technical data or by selecting or designing felt parts for your own special use. Write for "The Story of Felt."

American Felt Company
TRADE MARK
62 GLENVILLE ROAD, GLENVILLE, CONN.

For more details circle **NED-733 C3** on enclosed inquiry slip

BLUE HERON TRUCK CRANE SAVES



Time Money Labor

ONE MAN can handle up to ONE TON —EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

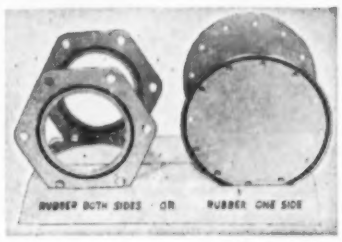
For more details circle **NED-734 C3** on enclosed inquiry slip

GLASS FIBER TANKS & DUCTS
fabricated to any size or shape

Tanks and ducts can now be fabricated from Iolyte, a Fiberglas reinforced polyester laminate, without limitation as to size or shape. This chemical-resistant structural plastic will not chip, craze, crack or scratch, and withstands higher temperatures than vinyls, rubber or polyethylene. It has tensile strength of steel, but is only one-fifth its weight. Ducts are easily installed and practical for corrosive fumes. Made by **Ferro-Co Corp.**, 43rd Rd. at Ninth St., Long Island City 1, N. Y.

For more details circle **NED-735 C3** on enclosed inquiry slip

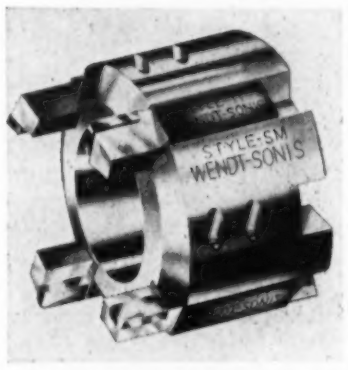
SEALING DEVICE
sealing gland bonded into groove



A device for sealing flange fittings, hatch covers, access doors and hand-hole covers, the Gask-O-Seal consists of flat metal surface and machined groove into which a rubber sealing gland is mechanically bonded. They can be made in wide variety of sizes and configurations. Advantages include elimination of cold flow under either high or low pressures and perfect seal with low bolt torque. One-piece construction allows reuse. Rubber is fully retained and cannot blow out. Full metal-to-metal contact of fastening surfaces assures maximum strength. Made by **Franklin C. Wolfe Co.**, 3646 Eastham Dr., Culver City, Calif.

For more details circle **NED-736 C3** on enclosed inquiry slip

INSERTED BLADE SHELL MILLS
have 4 or 6 carbide tipped blades



Blade slots of these inserted blade shell mills are precision ground to assure minimum tooling time. Blades are also ground on both locating sides for minimum total, indicator runout when tool is in operation. All carbide tip cutting edges are diamond lapped. Blades remove easily for free-hand grinding to a template or can be precision ground in cutter body. Two blade styles are available for steel, nonferrous and cast iron milling. Shell mill sizes range from 3 to 6 in. and come in four and six-blade styles. Made by **Wendt-Sonis Co.**, Dept. NE-1, Hannibal, Mo.

For more details circle **NED-737 C3** on enclosed inquiry slip

JUNCTION BOXES
vapor-tight or explosionproof types

Added to line of electrical fittings are explosionproof and vapor-tight junction boxes made from lightweight, corrosionproof, nonsparking Alumalloy. Former are designated type GRJ and measure 10 x 8 x 5¼ in. They take conduit up to 3-in. sizes and can be supplied with hubs in any location. Large open-cover design facilitates easy installation and splicing. The vaportight series VLJ, illustrated, had 4-in. diameter and ranges from 1⅝ to 3½ in. deep. These models can be furnished with blank or hub covers, or with an adapter plate designed to take Killark vapor-proof lights or any device for a 3¼ or 4-in. outlet box. Latter series takes up to 1-in. conduit sizes. Made by **Killark Electric Mfg. Co.**, 3944 Easton Ave., St. Louis 13, Mo.

For more details circle **NED-738 C3** on enclosed inquiry slip

KEEP 'EM ROLLING! WITH DICO WHEELS

MODERN INDUSTRIAL AND HIGH SPEED WHEELS

6 in. to 24.5 in. Rubber Tire Diameters
Drop Center and Demountable Rim
Pneumatic and Semi-Pneumatic

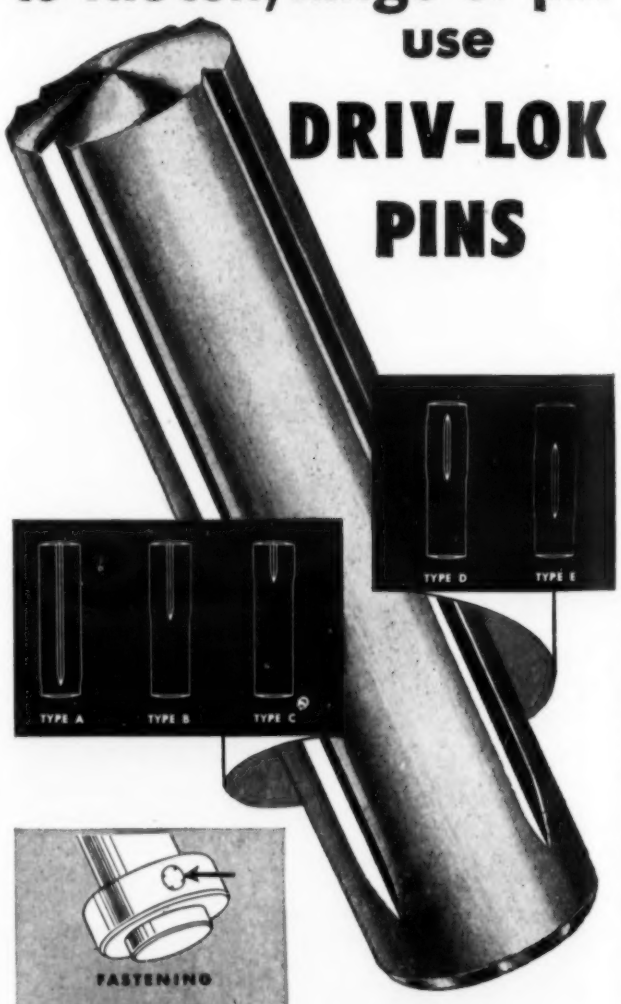
WRITE FOR DICO WHEEL CATALOG

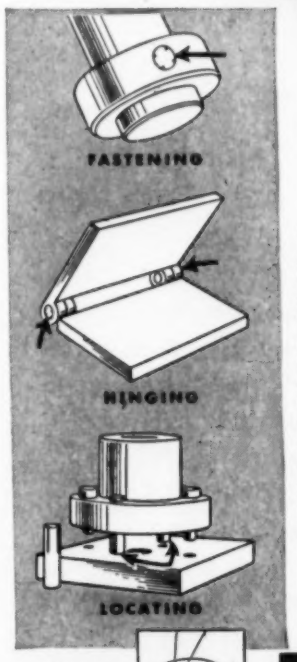
Let DICO help you with your wheel problems. Catalog contains simplified information and specifications on DICO's dependable high-quality wheels. Write today!

DICO COMPANY 206 S.W. 16th ST., DES MOINES, IOWA

For more details circle **NED-739 C3** on enclosed inquiry slip

here's a better way to fasten, hinge or pin use DRIV-LOK PINS





You can use DRIV-LOK Pins for thousands of applications that will improve product appearance and performance while reducing production costs. Widely used by the mass production industries on every type of product, DRIV-LOK Pins are proving, wherever they are tried, to be the fastest, simplest and most economical method of fastening, hinging, locating or pinning components. We can help you with your fastening problem if you will write, giving us the nature of the problem. Catalog and samples sent without obligation.

Our Catalog illustrates the solution to many fastening problems. Ask for it today.

DRIV-LOK PIN COMPANY
717 Chauncey St., Sycamore, Illinois

For more details circle **NED-740 C3** on enclosed inquiry slip

NEW!

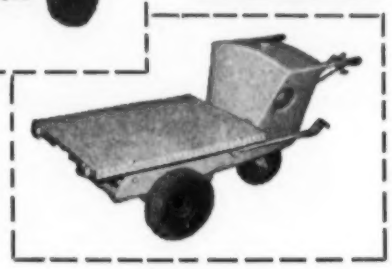
- CUTAWAY DRAWINGS
- LIST OF LIQUIDS THAT CAN BE FILTERED
- GENERAL SPECIFICATIONS
- PERFORMANCE DATA
- LIST OF MEDIA USED
- INSTALLATION STORIES
- COMPLETE DATA SHEET

SEND FOR THIS 12 PAGE BULLETIN D-1L
JUST OFF THE PRESS

DOLLINGER STAYNEW FILTERS
DOLLINGER CORPORATION
49 Centre Pk., Rochester 3, N. Y.
ALL TYPES OF FILTERS FOR EVERY INDUSTRIAL NEED

For more details circle NED-741 C3 on enclosed inquiry slip

BULK HANDLING WITH Bell PRIME-MOVER



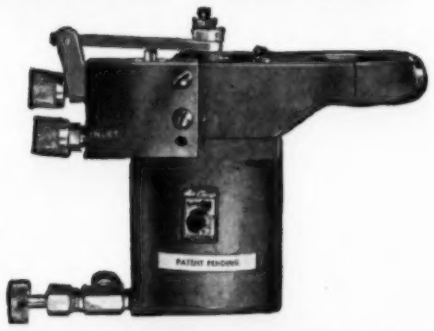
Bucket and Platform interchangeable in a jiffy. Handle up to ¾ ton load — up grades and down — through narrow aisles and doorways.

MOVE your materials — bulk or packaged — with equipment not limited to specific jobs—consolidate those intermittent handling jobs, outdoors or in confined areas—supplement and relieve your specialized equipment and complete the mechanization of your materials handling.

If you're processing bulk materials—disposing of waste and scrap—using materials in maintenance or construction—shifting heavy maintenance equipment—maintaining grounds—or loading, unloading bulk or packaged goods from cars, toss your problems on the Prime-Mover and get the job done—quickly and economically. Prime-Mover Co., Muscatine, Iowa.

For more details circle NED-742 C3 on enclosed inquiry slip

DOUBLE YOUR DRILL PRESS OUTPUT FOR $33



USE A NEW MEAD PNEUMATIC DRILL PRESS FEED FOR DRILLING REAMING TAPPING

This simple, inexpensive device quickly converts standard drill presses into semi-automatic machines — increases production substantially on suitable jobs: double or more in some cases.

Clamps to spindle quill in a few seconds. Automatically closes air fixture on work. Adjustable feed control and break-through cushion. Quick return. Easy to synchronize with automatic cycle equipment.

Air-Power does it quicker, cleaner, better. Write today for latest complete catalog.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. N-33-A, CHICAGO 41, ILL.

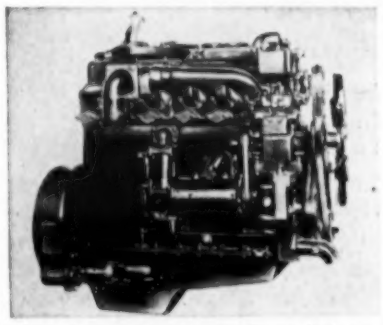
For more details circle NED-743 C3 on enclosed inquiry slip

MOBILE CUTTING UNIT plugs into nearby electric outlet

Of suspension type, model 25EE Guillotine is fully portable and will cut up to 2¾-in. diameter steel rod in 13 seconds. It is also adaptable for cold heading up to 1-in. diameter rivets and for punching and pressing operations. Two electric hydraulic pumps, mounted in tandem, provide 150-ton thrust. Control is by means of easy-action hand lever. Made by **Manco Mfg. Co.,** Washington St., Bradley, Ill.

For more details circle NED-744 C3 on enclosed inquiry slip

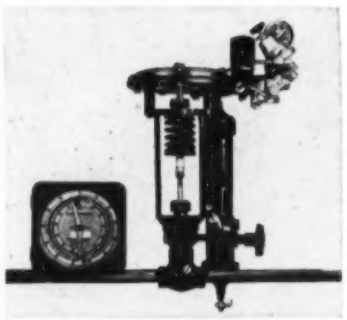
DIESEL ENGINE develops 165 hp at 2400 rpm.



Developing 165 hp at 2400 rpm and maximum torque of 402 ft-lb at 1600 rpm, model 6-DAS-516 diesel engine is suitable for heavy-duty trucks and tractors hauling up to 60,000 lb gross vehicle weight. Engine is supercharged and has displacement of 516 cu in., a bore of 4 7/16 in. and a 5 9/16-in. stroke. Weight, including 12-v electrical equipment and 7¼ cu ft air compressor, is 1825 lb. Made by **Buda Co.,** Dept. LF, 15440 Commercial Ave., Harvey, Ill.

For more details circle NED-745 C3 on enclosed inquiry slip

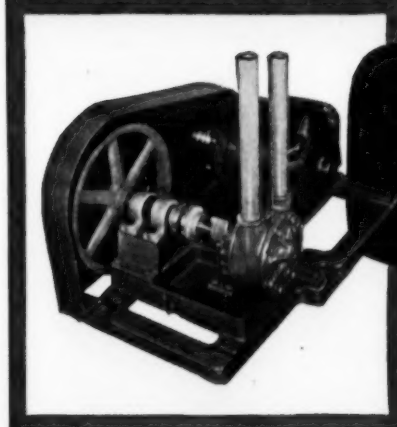
BOILER BLOWDOWN VALVE designed for automatic control



Automatic control of boiler blowdown operations is possible with the intermittent blowdown control valve which causes repeated disturbance of boiler water. This action prevents water crystal growth and formation of scale and residue that build up insulation against heat. Valve is permanently attached to the blowdown outlet of the boiler and equipped with an automatic cycle-timer. It can be adapted to all types of industrial boilers. Made by **Rice Industries,** 25 Clearview Dr., Pittsburgh 5, Pa.

For more details circle NED-746 C3 on enclosed inquiry slip

New...Versatile!



TUTHILL MULTIPLE V-BELT PUMPING UNIT for Viscous Liquids

Here's the ideal pumping equipment for handling heavy fuel oils and for other non-corrosive viscous liquids in circulating and transfer service.

Tuthill Type SU features wide flexibility along with advantages like these: Simplified motor mounting for motors up to 5 h.p. One point belt tension adjustment. Ball bearing pillow blocks. Pump and jack shaft direct-connected by flexible coupling. Accessible mounting and adjustments. Wide range of pump models and capacities.

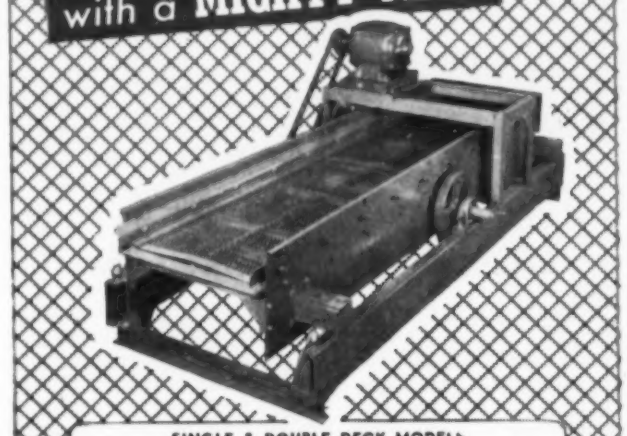
DESIGNERS— Pump, jack shaft and pillow blocks available as separate unit for built-in applications.

Write for Catalog No. 107.

TUTHILL PUMP COMPANY

For more details circle NED-747 C3 on enclosed inquiry slip

if the load is light screen it right with a MIGHTY-MITE



SINGLE & DOUBLE DECK MODELS
Now, throw away time consuming hand screens. Mighty-Mite will efficiently, economically screen coarse or fine materials up to 15 tons per hour. Send for literature today.
Makers of Famous Seco Vibrating Screens

SCREEN EQUIPMENT CO., INC.
1750 WALDEN AVE., BUFFALO 25, NEW YORK
In Canada, United Steel Corp. Ltd., Toronto, Ont.

For more details circle NED-748 C3 on enclosed inquiry slip

Timely Facts and Features You'll Find in the NEOPRENE NOTEBOOK

- how you can reduce maintenance costs
- ways to solve many production problems
- new ideas on neoprene's wide range of uses
- technical help in specific applications
- details of new improvements in old products
- interesting new neoprene products

YOU'LL FIND PROFITABLE READING in every issue of the Neoprene Notebook. Each issue is packed from cover to cover with new ideas to save you time, trouble, and money. Put your name on our mailing list. Subscriptions are FREE.

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Firm_____
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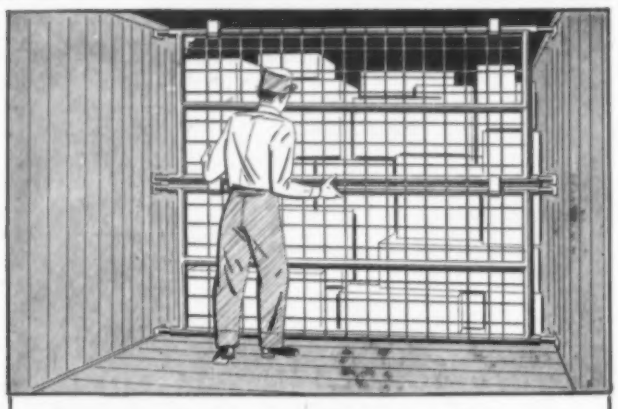
NEOPRENE
The rubber made by Du Pont since 1932
DU PONT
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

For more details circle NED-749 C3 on enclosed inquiry slip



How *permanent* Pittsburgh Railroad Bulkheads *pay for themselves!*

When you consider the lumber, straps, anchor plates and other equipment which traditionally have secured LCL rail shipments, you will readily see why these permanent bulkheads easily put in place by 2 men in 2 minutes usually pay for themselves in 20 trips then show a profit forever. Moreover, damage claims virtually disappear. Write to Dept. NED, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh BULKHEADS

a product of **Pittsburgh Steel Products Co.**
subsidiary of **Pittsburgh Steel Company**

For more details circle **NED-750 C3** on enclosed inquiry slip

New Hunter Industrial Fan

POWERFUL, LOW-COST VENTILATION

FEATURES:

- Streamlined orifice for efficient air entrance
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading
- "Gull Wing Design" airfoil blades for strength and uniform pressure
- Effective up to ½ in. static pressure
- Heavy continuous-duty motor
- Permanently lubricated and sealed for life
- Direct-drive for reduced maintenance costs
- Automatic shutters to fit all fan sizes

Hunter

CLIP AND MAIL NOW FOR COMPLETE DATA

Hunter Fan & Ventilating Company
373 S. Front St., Memphis 2, Tenn.
Send complete information on Hunter Industrial Fan to:

Name_____

Address_____

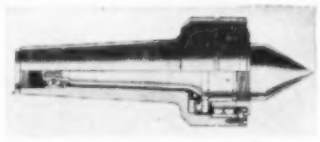
For more details circle **NED-751 C3** on enclosed inquiry slip

ELECTRIC TIMER has a rating of 1650 w

Two-Timer model 2T-20 electric timer has a rating of 1650 w and can be used as an automatic time control for electric heating pots, tumbling machines, small ovens, air conditioners and humidifiers and controlling of break-in periods. It can be preset to turn a properly rated device plugged into it on or off at any time up to 20 hr ahead. Timer is designed for use with 105-120 v, 50-60 cycle current, and controls a rated load of 15 amp at 110 v. The 2 x 2 x 4-in. unit is driven by model 200 Bristol Circle B synchronous timing motor. Made by **Vocaline Co. of America,** Bristol Motor Div., 20 Coulter St., Old Saybrook, Conn.

For more details circle **NED-752 C3** on enclosed inquiry slip

HEAVY DUTY CENTER has ball and roller bearings



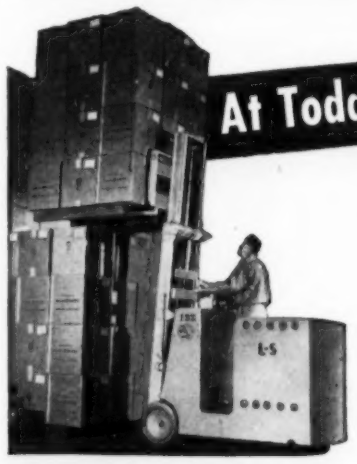
Accuracy and efficiency on heavy duty work are characteristics of the Red-E SKF ball and roller bearing antifriction center. It is built to take both radial and thrust strain with its double row tapered roller bearings and single row ball bearings. Bearing which eliminates shaft movement in either direction is preloaded at assembly and requires no adjustment or lubrication. Entire center is permanently lubricated and a labyrinth seal protects the bearings. Made by **Ready Tool Co.,** 554-D Iranistan Ave., Bridgeport 5, Conn.

For more details circle **NED-753 C3** on enclosed inquiry slip

FOOT-OPERATED TOGGLE SWITCH can also be hand manipulated

A size 00 drum switch encased in dust and oil-tight steel enclosure constitutes the FPC foot power control, a reversing foot-operated toggle switch, which can also be hand manipulated. This three-pole switch has 12 terminals and can control single-phase, two-phase, three-phase and direct-current motors. Rating is ¾ hp for ac and ⅛ hp for dc motors. Action can be nonspring return or self-centering, with changing from one to other effected by relocation of screw. Switches are practical for motor control where fast, safe operation under rough usage is required. Made by **Aronson Machine Co.,** Dept. ND, Arcade, N. Y.

For more details circle **NED-754 C3** on enclosed inquiry slip



At Today's Prices... you can't afford to waste space!

Aisle widths can be held to absolute minimums...valuable extra space put to work . . . with L-S SpaceMaster Electric Fork Trucks. And SpaceMasters have an enviable record of dependability under heavy duty operation.

At the General Electric Co. River Works, for example, SpaceMasters get in and out of places you'd never think possible, earning the praise of G.E. Plant Engineers for their combined ruggedness and maneuverability.

Want proof that the new L-S Electric Trucks are the best dollar-for-dollar value in the market today. Send for Catalog, Comparison Chart and Proof Folders showing L-S Trucks on-the-job. Lewis Shepard Products, Inc., 132 Walnut St., Watertown 72, Massachusetts.

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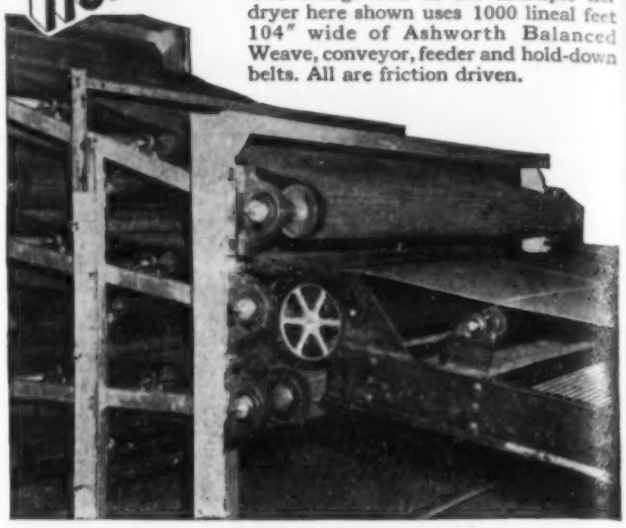
The "MASTER" Line

For more details circle **NED-755 C3** on enclosed inquiry slip

ASHWORTH Process Belts

make possible a multiplicity of continuous operations.

The charge end of the multiple tier dryer here shown uses 1000 lineal feet 104" wide of Ashworth Balanced Weave, conveyor, feeder and hold-down belts. All are friction driven.



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ASHWORTH BROS., INC.
METAL PRODUCTS DIV. • WORCESTER, MASS.

Sales Engineers: Buffalo • Chattanooga • Chicago • Cleveland • Detroit • Kansas City • Los Angeles • New York • Philadelphia • Pittsburgh • Rochester • Seattle • St. Paul • Tulsa — Canadian Rep., PECKOVER'S LTD. - Toronto - Montreal

For more details circle **NED-756 C3** on enclosed inquiry slip

NOW... FAST, ACCURATE SET-UPS FOR ANGULAR GRINDING

Magna-Lock SINE

WHAT IT IS: An electro-magnetic chuck for making precision angular set-ups on surface grinders. Standard gauge blocks insure maximum accuracy. No dials, no scales. Rugged precision-made hinge is only moving part.

WHAT IT DOES: Single or compound angle set-ups made in minutes. Work held securely . . . powerful magnetic attraction minimizes distortion or warpage during machining operation.

Get full details now. Write Dept. ND-33

MAGNA-LOCK, INCORPORATED
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS, MICHIGAN, U. S. A.

For more details circle **NED-757 C3** on enclosed inquiry slip

New XL BOND FOR CARBIDE TOOL AND CUTTER GRINDING

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Ideal for rough and finish grinding . . . offhand or precision automatic. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."

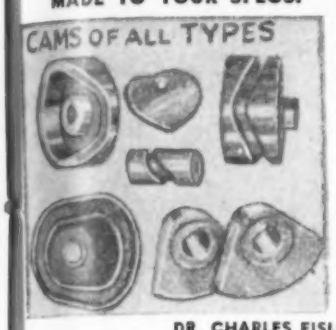
Write today for information—Dept. NED

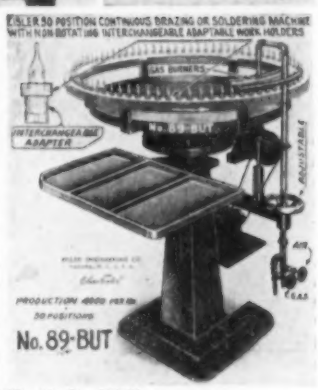
CHICAGO WHEEL & *Mfg. Co.*
1101 West Monroe St., Chicago 7, Illinois
OFFICES IN PRINCIPAL INDUSTRIAL CENTERS

For more details circle **NED-758 C3** on enclosed inquiry slip

TURNTABLES AND POSITIONERS over 100 different types for welding, brazing, soldering, spraying, glass insulator melting and glass glazing, with rotating stations and indexing with barrel cam or geneva gear action. For work transferring, tilting positions, motorized or hand operated. Rotating tables of all kinds for over 33 years. Many types made by EISLER. We supply any part or complete equipment and we make special turntables to your order. Write for catalog.

CAMS
MADE TO YOUR SPECS.

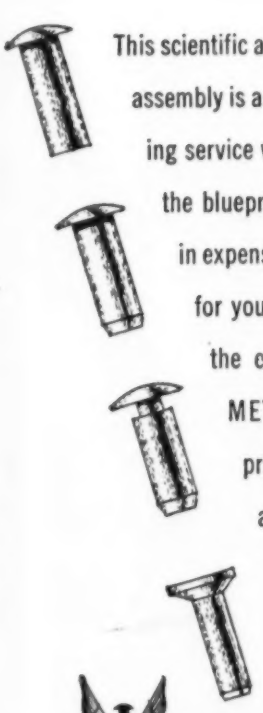




DR. CHARLES EISLER, M. E., PRES.
EISLER ENGINEERING CO. INC., 740 S. 13TH ST., NEWARK 3, N. J.
▲ For more details circle **NED-759 C3** on enclosed inquiry slip ▲

...when the **M**ilford **M**ethod may save you thousands of dollars in costly fasteners and assembly!

ask about the Milford Method



This scientific approach to product and parts assembly is a fastener-engineering consulting service which analyzes your needs at the blueprint stage...before you invest in expensive tools and dies! It projects for you the right fastener. Look into the economies of the "MILFORD METHOD" now. Send your blueprints and samples for analysis and planning by the "MILFORD METHOD", or write for the "Milford Method" brochure today.

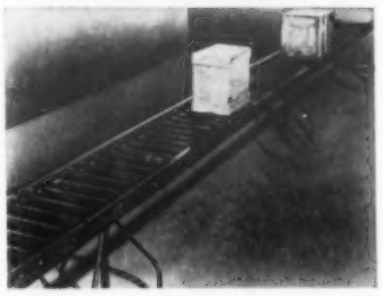
EST. 1919
the MILFORD RIVET & MACHINE CO.

MILFORD ... *the name to rivet in your memory for fasteners*

929 Bridgeport Ave., Milford, Conn.
878 Illinois Ave., Aurora, Ill.
1158 W. River St., Elyria, Ohio
78 Platt Street, Hatboro, Penn.
753 So. Palm Ave., Alhambra, Calif.

▲ For more details circle **NED-760 C3** on enclosed inquiry slip ▲

ROLLER CONVEYOR
meets heavy duty requirements



A wide range of heavy duty requirements which call for capacities up to 600 lb per roller is met by line of roller conveyors available in widths from 6 to 36 in., lengths of 5 and 10 ft and in 90-degree curves. Rollers have 2¼-in. diameters, 3/16-in. wall thickness and can be equipped with heavy duty standard bearings, grease packed or dust sealed bearings. Made by **Sage Equipment Co.,** 28 Essex St., Buffalo 13, N. Y.

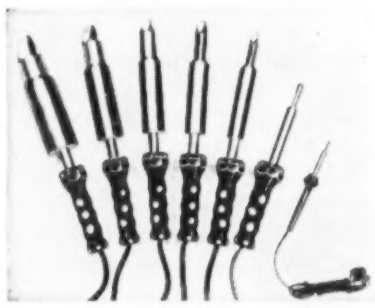
▲ For more details circle **NED-761 C3** on enclosed inquiry slip ▲

VACUUM TESTING UNITS
in 2000 and 4000 cfm models

Mounted on fabricated steel base for easy transportation by truck, fork truck or crane, vacuum pump wagons are designed as emergency equipment for vacuum processing or to test pipelines, vacuum chambers, pumps and other equipment that must be vacuum-tight. Small model handles more than 2000 cfm between 1 and 10 microns absolute pressure, while larger unit handles over 4000 cfm between 1 and 10 microns pressure. Former consists of one 212-G Microvac pump which provides rapid pull down, one 147-E-10 broad range diffusion pump, one 211-10 high vacuum valve and one ½-hp hermetically sealed refrigeration unit with baffled cold trap coil. Connection for manifold is standard 10-in. pipe flange having center line 42 in. above floor. Made by **F. J. Stokes Machine Co.,** 5900 Tabor Rd., Philadelphia 20, Pa.

▲ For more details circle **NED-762 C3** on enclosed inquiry slip ▲

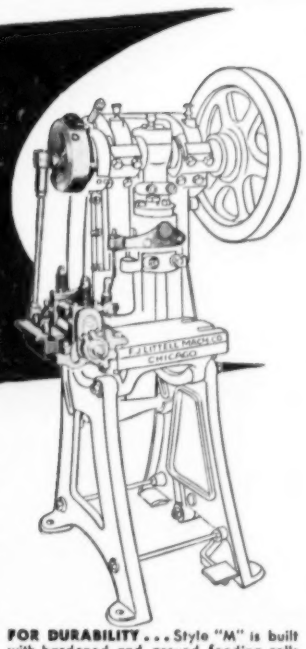
ELECTRIC SOLDERING IRONS
fusing and tip burning eliminated



Long life, even with production line use, and fast heating are featured by line of industrial electric soldering irons. Thermostatic Brain heat control eliminates fusing and tip burning, and there is no radionic interference while irons are in use. Sizes range from smallest pencil type which weighs only 1 oz to large types rated at 1000 w, with thermostat action up to 2600 w. Irons operate on 110-120-v ac or dc. Made by **Wall Mfg. Co.,** 380 Erie St., Grove City, Pa.

▲ For more details circle **NED-763 C3** on enclosed inquiry slip ▲

FOR LOW COST AND BIG RESULTS
Feed Your Presses With
LITTELL
STYLE "M" AUTOMATIC
ROLL FEED



FOR SPEED ... With Style "M" automatic feeding your press can easily produce 9,000 stampings an hour at 200 strokes per minute, or 4,600 stampings an hour at 100 strokes per minute.

FOR VERSATILITY ... Style "M" feeds left to right, right to left and front to back. Feed direction can be reversed by simply reversing clutch. Feed lengths per stroke are 0 to 4⅜" with standard gears and 0 to 8½" with compound gears.

FOR ADAPTABILITY ... Style "M" is adaptable to any standard punch press. It feeds coil stock up to 8" wide and up to .055" thick (17 gauge).

FOR SAFETY ... Style "M" automatic feeding keeps hands and fingers away from danger, prevents costly accidents.

FOR DURABILITY ... Style "M" is built with hardened and ground feeding rolls and the other quality features that have made Littell Roll Feeds accurate and durable since 1918.

FOR ECONOMY ... Style "M" brings you a big saving in price. It gives your presses the lowest insurance rate. It cuts your cost per stamping by multiplying press output.

WRITE FOR CATALOG

F. J. **LITTELL** MACHINE CO.
Speed with Safety

ROLL FEEDS • DIAL FEEDS
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

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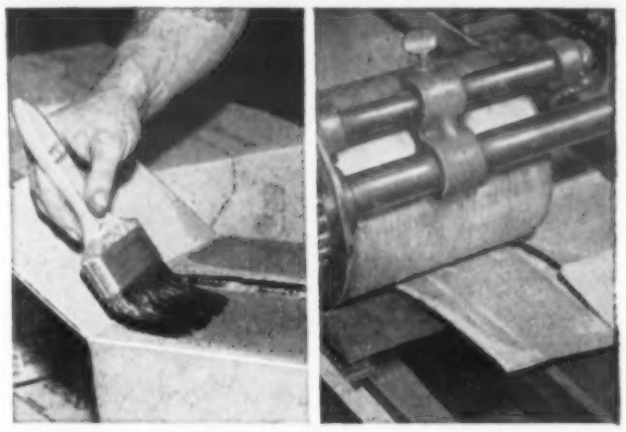

SEAL CASES IN 20 SECONDS

BOXEAL is the new *fast setting* shipping case glue which tears fibres 15 to 20 seconds after application by brush or machine. Brings new high speed and efficiency to all production lines where short pressure time is essential. Permanently seals all types of shipping boxes, corrugated, Fourdrinier kraft, jute, solid fibre.

Non-toxic, odorless, stainless, and most of all . . FAST SEALING. Write today for free laboratory report and our generous trial offer.

Paisley SCIENTIFIC ADHESIVE SERVICE

DON'T WAIT. SEND FOR FREE ADHESIVE OPERATION DATA SHEET TODAY!

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
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▲ For more details circle **NED-765 C3** on enclosed inquiry slip ▲

Dollar and Cents Angle
on Fafnir Sealed Ball Bearings

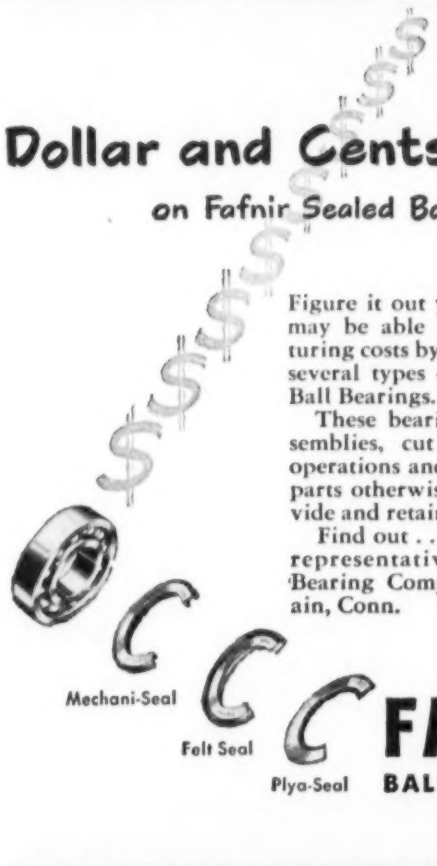


Figure it out yourself . . . you may be able to cut manufacturing costs by using one of the several types of Fafnir Sealed Ball Bearings.

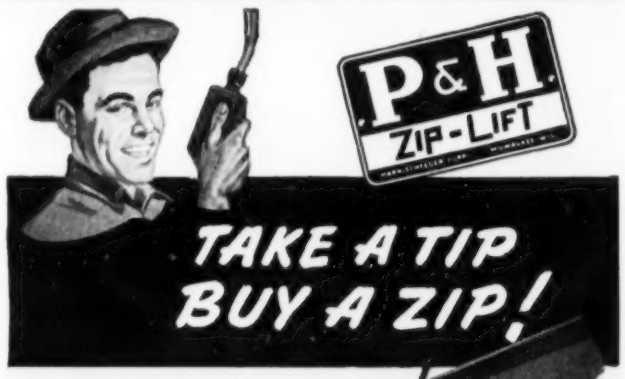
These bearings simplify assemblies, cut out machinery operations and eliminate extra parts otherwise needed to provide and retain lubricants.

Find out . . . call in a Fafnir representative. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

▲ For more details circle **NED-766 C3** on enclosed inquiry slip ▲



TAKE A TIP BUY A ZIP!

Whatever your handling problems include, chances are the Zip can save you time and money with fast, effective "thru-the-air" handling. It's a real wire rope electric hoist — with full magnetic push button control. Safer — more dependable — built for lifetime service. 2,000 lbs. capacity; with bolt, hook, or trolley mounting. It's America's finest small hoist.

SEND FOR YOUR FREE COPY

This fully illustrated 20-page bulletin will give you many cost-cutting ideas. Write for it today. Ask for NEW ZIP-LIFT Bulletin.

HARNISCHFEGER CORPORATION
4400 W. NATIONAL AVENUE • MILWAUKEE 46, WISCONSIN

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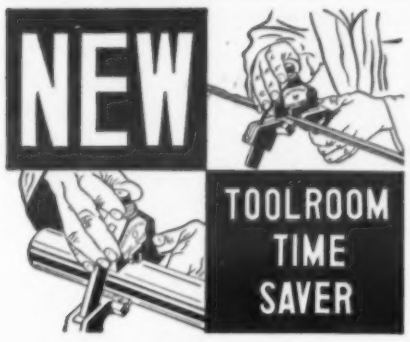


SIMPLE TO SET UP AND OPERATE ★ LIGHT WEIGHT ★ VERSATILE ★ ACCURATE ★ INEXPENSIVE

Odee-Hone *A Tool for Honing External Surfaces*

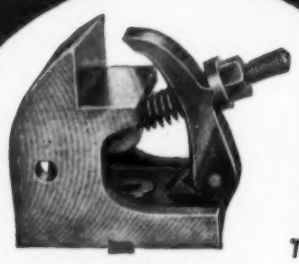
One tool for any cylindrical surface from ½" to 2½" in diameter—any length • Removes Stock • Holds accurate size • Generates—round, straight surfaces • Develops any degree of surface finish—without chatter.

USE WITH ANY LATHE, DRILL PRESS OR ELECTRIC DRILL

Manufactured by
MICROMATIC HONE CORPORATION
8100 SCHOOLCRAFT, DETROIT 4, MICHIGAN
Guilford, Conn. • Rockford, Ill. • Los Angeles 21, Calif. • Brantford, Ontario, Can.

For more details circle NED-768 C3 on enclosed inquiry slip

CUT SET-UP COSTS HUNDREDS OF WAYS WITH



HART MILLING FIXTURES

"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

For more details circle NED-769 C3 on enclosed inquiry slip

new... complete
FREE CATALOG
introduces
ILLINITE®
STANDARD CUTTING TOOLS

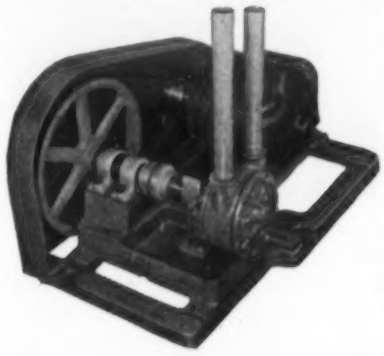
- Complete line illustrated
- Specifications and prices included
- Indexed for quick reference

GET YOUR COPY NOW
. . . from your ILLINITE distributor or write
ILLINOIS TOOL WORKS
2501 North Keeler Avenue • Chicago 39, Illinois

For more details circle NED-770 C3 on enclosed inquiry slip

VISCOUS FLUID PUMP
for fuel oil and noncorrosive liquids

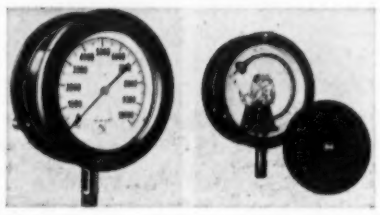
Simplified mounting for up to 5-hp motors, one-point belt tension adjustment, ball bearing pillow blocks and flexible coupled jack shaft are features of this multiple V-belt driven pump unit for handling heavy fuel oils and other noncorrosive viscous liquids in circulating and transfer service. Pumps are available as model CK for pressures over 150 psi and model CG for pressures up to 150 psi. Capacities range up to 1188 gph at 300 psi, with five sizes in each pump model. Made by **Tuthill Pump Co.**, 937 E. 95th St., Chicago 19, Ill.



For more details circle NED-771 C3 on enclosed inquiry slip

PRESSURE GAGES
feature safety release plate

Protection to viewer, plus accessibility to gage movement and tube assembly are featured by this Ashcroft Maxisafe Duragauge. An integrally cast solid wall separates dial from movement and tube, and double spring-mounted safety release plate covers entire back of case. Less than 0.5-psi pressure forces open the plate which has been Teflon coated to prevent being painted closed and which fits tightly on rubber gasket. Ranges include 15 psi pressure or vacuum minimum to 100,000 psi maximum. Compound and retard ranges are also available. Sizes include 4½, 6 and 8½ in. Wide selection of Bourdon tube material and case designs can be obtained. Made by **Manning, Maxwell & Moore, Inc.**, 250-60 E. Main St., Stratford, Conn.



For more details circle NED-772 C3 on enclosed inquiry slip

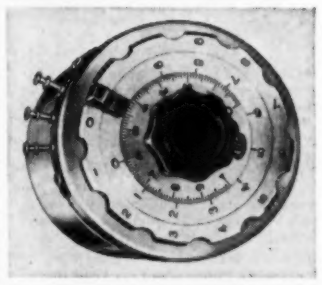
TRANSISTORS
now available in quantity

Germanium junction transistors, measuring only 0.035-cu in. in volume and weighing 0.033-oz, are available for use in hearing aids. They have the same general shape as Raytheon hearing aid vacuum tubes, with flat body and leads brought out in a straight line for plugging into existing sockets or soldering into circuits. Photo shows approximate number of batteries required to operate a transistor-equipped hearing aid ($3.00) for 1 year compared with batteries required by standard vacuum tube model. Made by **Raytheon Mfg. Co.**, Dept. 6470-NR, Waltham 54, Mass.

For more details circle NED-773 C3 on enclosed inquiry slip

DECADE POTENTIOMETERS
accurate panel mounted series

Linearity to better than plus or minus 0.01-per cent and total resistance to better than plus or minus 0.005-per cent are characteristic of the accuracy of the Dekapot model DP-211 series of panel mounting decade potentiometers. They have two decades of fixed resistors and an interpolating slidewire to accomplish voltage division. Dial arrangement gives an effective scale length of 390 in. Digits of a given setting are read directly in a horizontal line on the flat face of the Beco Dekadial. Units are available in total resistances of 10,000 ohms. Made by **Brown Electro-Measurement Corp.**, Dept. NED-5, 4635 S. E. Hawthorne Blvd., Portland 15, Oreg.



For more details circle NED-774 C3 on enclosed inquiry slip

READY-POWER Adds 'GUTS' to Electric Truck Performance

The READY-POWER Co.
3832 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

For more details circle NED-775 C3 on enclosed inquiry slip

If Your Paint Spray Booth Is A Space, Installation or Hazard Problem

RP PAINT ARRESTORS CAN SOLVE IT FOR YOU

R-P Paint Arrestors—easily, economically installed under the floor grill, makes this installation possible. Save labor, material, maintenance costs with this flexible, effective system of overspray removal.

WRITE FOR FREE BOOKLET
Helpful, informative suggestions to solve your paint spray booth problems. Write today.
RESEARCH PRODUCTS CORPORATION
MADISON 10, WISCONSIN

RP . . . PRODUCTS OF RESEARCH

For more details circle NED-776 C3 on enclosed inquiry slip

A NEW CASE STUDY FILE

For Low Cost Handling

Here's a brand-new case study file which contains the first of a continuing series of case studies covering many successful American MonoRail installations.

Check your handling problems against these "Engineered Applications" of American MonoRail systems.

Send today for original file. Future studies will reach you as published.

THE AMERICAN MONORAIL COMPANY
13116 Athens Avenue • Cleveland 7, Ohio

For more details circle NED-777 C3 on enclosed inquiry slip

Standard... or Special

• You can depend on Albion Industries to meet your most *exacting* requirements for rugged, dependable industrial casters ... in dozens or thousands.

Albion produces better, yet more economical casters for every conceivable industrial operation. Investigate their advantages today... make Albion your *one dependable source* for casters and wheels.

ALBION INDUSTRIES, Inc.
Albion, Michigan

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AUTOMATIC HOT START ✔
SILICONE INSULATION ✔
ARC STABILIZATION ✔

you'll find them ALL in A-C WELDERS

Yes, all of these important features contributing to better welder performance and longer welder life are combined in M&T a-c welders.

Automatic "hot-start" means faster welding because it provides correct current surge automatically for any current setting—permits easy arc starting without dialing.

Silicone insulation assures longer welder life, permits more overloading—withstands higher temperatures, moisture, chemical fumes.

Arc stabilization steps up welding speeds, improves quality by guaranteeing a stable arc: eliminating "pop-outs."

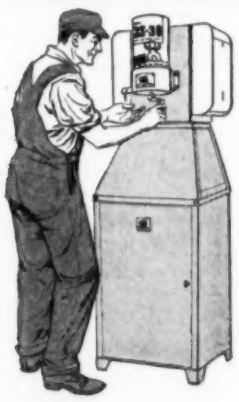
A-C welding at its best is available from 30 through 625 amps in the new M&T. Write for literature. Or contact your nearest distributor or M&T Branch.

Contact your local distributor or nearest M&T office.

METAL & THERMIT CORPORATION
100 EAST 42nd STREET • NEW YORK 17, N. Y.

▲ For more details circle NED-779 C3 on enclosed inquiry slip ▲

NEW SBS WATERLESS WASHSTATION*



"brings the washroom to the worker"* for only $52.50 per unit

(F.O.B. Saginaw, Michigan, towel dispensers not included)

Portable Wash-up units that save hundreds of man-hours... thousands of dollars!

The SBS Waterless Washstation is a complete hand-washing unit that requires no plumbing because it uses SBS-30 Waterless Skin Cleanser.

- **locates** close to work areas in factories, warehouses, or outdoors.
- **saves** up to $720 per unit annually by reducing time workers spend off the job washing up.
- **reduces** crowding in washrooms at lunch time and new shift time.
- **eliminates** use of harmful and irritating solvents.

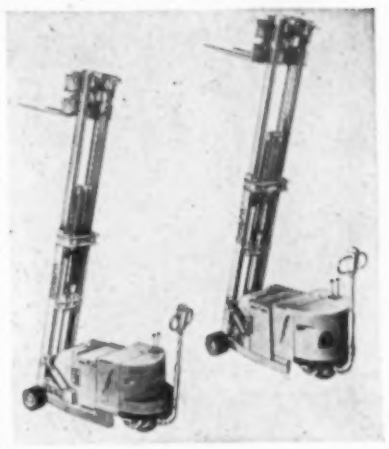
SBS Waterless Washstation is heavy steel finished in grey-green enamel. Turret top has storage space, holds SBS-30 dispenser and two of your own paper towel containers. Removable cloth bag for used towels in base. Easy to fill dispenser has two-way feed adjustment that provides 1000 to 1500 washes before refilling. One turn of handle dispenses right amount of cleanser—no leakage, no waste. SBS-30 cleanser is just rubbed on, then wiped off along with all dirt and grease. Leaves hands clean, smooth and soothed. WRITE for complete information about SBS Waterless Washstations and our 30-day no-risk money back trial offer.

*Trademark 87

SUGAR BEET PRODUCTS CO., Saginaw, Mich.
Chemical By-Products Division, Dept. 2F

▲ For more details circle NED-780 C3 on enclosed inquiry slip ▲

STACKING TRUCK offered in four capacities



Four base capacities of 1500, 2000, 2500 and 3000 lb, all rated at 24-in. center line of load, are offered in the Powrworker line of Telescopic tilting fork stackers. Two standard models in each capacity incorporate the Hi-Lo stack feature: one has an 83-in. overall height with 64 in. of free lift and 130-in. maximum lift; the other, designed for highway truck loading, has a 68-in. overall height with 49 in. of free lift and a maximum lift of 100 in. Trucks are light in weight, have short overall length and width and possess lifting speeds varying from 21 to 14 fpm, depending upon load. Made by **Clark Equipment Co.**, Powrworker Dept., Buchanan, Mich.

▲ For more details circle NED-781 C3 on enclosed inquiry slip ▲

GLASS-PLASTIC FABRIC is strong, lightweight and flame resistant, water and acidproof

Consisting of two sheets of vinyl plastic film and a center layer of Owens-Corning Fiberglas fabric, Fortron industrial fabric has wide range of applications. It is strong, lightweight, mildew and fungus proof, acid and grease resistant, nonabsorbent, and flame resistant. It will not stretch or shrink and is crackproof at temperatures as low as −30° F.

Weighing as little as ½-oz per sq yd, it is easy to handle in large sheets as demonstrated by illustration showing girl holding a piece equal in size to the one at which she is looking. Since it does not absorb water, it is as easy to handle wet as when it is dry.

Electronic sealing makes possible the production of air and water-tight sheets of any size. Grommets can be secured where needed in tarpaulins and drop cloths. Both clear and translucent types are offered. Developed by **Thermoplastic Fabrics Corp.**, Room 904N, 1457 Broadway, New York 36, N. Y.

▲ For more details circle NED-782 C3 on enclosed inquiry slip ▲

Clean... Dry... *Slip-Safe* Floors IN JUST 90 SECONDS!

Only HILD has the Shower-feed Brush

Now dirty, slippery factory floors can be scrubbed during working hours... *without interrupting work routines for more than 90 seconds!* HILD Shower-feed Scrubbing speedily loosens stubborn grease and slippery oil accumulations. The HILD Vacuum then *instantly* and *completely* suctions up dirty scrub-soap solution. Floors are left clean, dry and *slip-safe*... without rinsing or mopping. HILD Equipment is designed to reach the danger spots under and around machines.

Write today for FREE 24 PAGE BOOK!

HILD FLOOR MACHINE COMPANY
740 W Washington Blvd., Dept. NE-3 Chicago 6, ILL.

HILD System MAINTENANCE EQUIPMENT & SUPPLIES

▲ For more details circle NED-783 C3 on enclosed inquiry slip ▲

THE HEAT-TREATED ELECTRIC FURNACE STEEL SHOT

SOLID TOUGH UNIFORM EFFICIENT

lasts longer
causes less wear
cleans faster
gives lowest cleaning cost

Send today for Bulletin 89

American WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St., Mishawaka, Indiana

▲ For more details circle NED-784 C3 on enclosed inquiry slip ▲

GLOBE OiLIFT

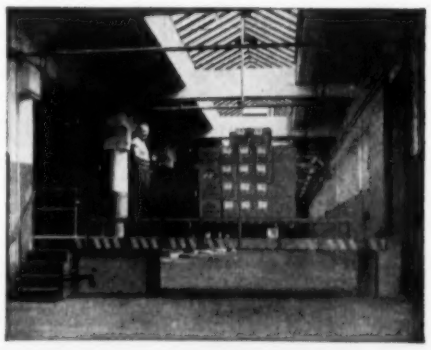
solves a warehouse traffic problem

A wide driveway cuts through the warehouse of this Boston drug and grocery firm. This "ditch" 4'8" lower than the level of the warehouse floor on each side once caused such traffic snarls both inside and outside the plant that work often stopped till the mess was straightened out.

Now, a Globe Hydraulic Bascule Bridge makes it possible for men, materials, and fork trucks to move from one side of the warehouse to the other by a direct route—while the usefulness of the sunken driveway is retained. There are no more traffic snarls, no more delays in loading and unloading trucks.

You can solve *your* materials handling and lifting problems with a Globe OiLIFT. Use the coupon *today* to get a free copy of Globe's valuable illustrated book of Case Studies in Modern Lifting.

Globe Hydraulic Bascule Bridge in raised position, permitting vehicles to move along warehouse driveway.



When Bridge is down, it links the 4'8" high levels of two sections of warehouse. Guard rails along the Bridge, and electric gong and flashing red signals are safety features.

GLOBE
THE BEST LIFT

Globe Hoist Company NED-510
1000 E. Mermaid Lane
Philadelphia 18, Pa.

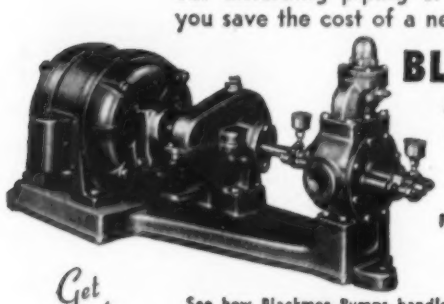
Please send me a copy of "Case Studies in Modern Lifting."

Name.....
Company.....
Address.....
City and Zone.....State.....

▲ For more details circle NED-785 C3 on enclosed inquiry slip ▲

...IT CUTS COSTS

● Blackmer Rotary Pumps are self-adjusting for wear. When the vanes finally wear out, change them, without disturbing piping or drive, and you save the cost of a new pump!



BLACKMER

The Lifetime Pump

10 TO 1500 GPM

Positive Displacement

Get the facts

See how Blackmer Pumps handle light or viscous liquids efficiently—how they cut your pumping costs. Write for Bulletin 307

BLACKMER PUMP CO., GRAND RAPIDS, MICH.

▲ For more details circle NED-786 C3 on enclosed inquiry slip ▲

Loading Dock...or Parking Lot?

...one of Magliner's 34 Standard Dock Boards will load Your Trucks

FASTER...SAFER...AT LOWER COST!

Magliner standard magnesium dock boards insure swift in-and-out truck movement . . . prevent valuable loading areas from becoming costly parking space! Magliner's 34 load-engineered standard models provide a low-cost link between truck and dock for virtually all truck docks . . . eliminate the need for expensive, custom-made equipment. Get smooth, rapid material flow from carrier to plant . . . keep trucks on the move! Gain substantial reductions in loading and unloading costs! Equip your truck docks with *magnesium*-light, *magnesium*-strong Magliner standard dock boards! Write today for bulletin DB-203.

MagLiner STANDARD MAGNESIUM DOCK BOARDS

Light! Strong! Safe!

Adjustable To Varying Heights and Spans

●

WRITE FOR BULLETIN DB-203!

Exclusive AUTOMATIC DROP LOCK (pat. applied for)

● Positive Lock Prevents Slippage

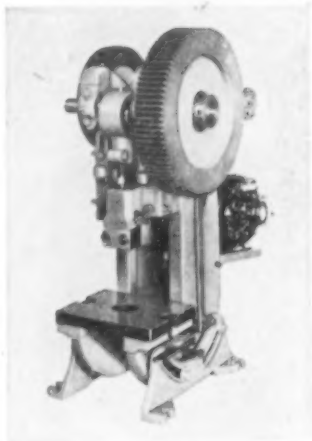
● Quickly . . . Easily Adjustable

Custom-Engineered Dock Boards Also Available — Write For Information

MAGLINE INC. • P.O. BOX 396 • PINCONNING, MICHIGAN

▲ For more details circle NED-787 C3 on enclosed inquiry slip ▲

BACK-GEARED PRESSES in 4 and 7½-ton models



Designed for drawing, forming and other metal shaping operations requiring slow, powerful strokes, line of Back-geared presses has speed range of 40 to 100 strokes per minute. Positive single-trip mechanism requires the ram to be triggered individually for each stroke. Continuous ram operation is obtainable by removal of single screw. Back-gearing is available on 4-ton standard, 4-ton deep throat and 7½-ton models. Made by **Benchmaster Mfg. Co.**, Dept. NED-3, 1835 W. Rosecrans Ave., Gardena, Calif.

▲ For more details circle NED-788 C3 on enclosed inquiry slip ▲

HAND CLEANING POWDER has corn cob meal abrasive

A mild corn cob meal abrasive is used in Magnus Cob free-flowing powder hand cleaner which contains lanolin, plus a toilet grade soap of pH 7.5 alkalinity. Cleaner produces good lather, rinses readily and is gentle to hands. It will not rot, ferment, attract vermin or clog drains. Cleaner is sold in 185 and 90-lb drums only. Request for sample should be made on company letterhead. Made by **Magnus Chemical Co.**, Dept. NED, Garwood, N. J.

▲ For more details circle NED-789 C3 on enclosed inquiry slip ▲

MULTI-USE PRESS is air and spring powered

Light staking, assembly and marking operations requiring high operating speed and precise control of power can be performed with this model RR-7 controlled-power safety press. A bench type air and spring powered model, it has adjustable impact from 0 to 12,000 lb and its squeeze can be varied up to 12 times air line pressure. Pedal release or two-hand safety release can be used. Illustrated without accessories, the press will accommodate model 300 slide feed and a small parts tray. Potential speed is 100 strokes per minute. Made by **Winter Products, Inc.**, Box 3112D, Barnum Station, Bridgeport 5, Conn.

▲ For more details circle NED-790 C3 on enclosed inquiry slip ▲

METZGAR GRAVITY CONVEYORS

Life-time Construction

Means More for Your MONEY

Standard Sections Wheel-Roller Widths 11½"; 15"; 18" Lengths 8'; 10' Curves 45° - 90°

16 YEAR'S Continuous Service

. . at no maintenance cost because Metzgar carries the load on these sturdy bearings — ¼" steel balls (Hoover or equal) spinning in hardened labyrinth ball races.

Standard in all Metzgar wheel and roller gravity Conveyors.

Write for descriptive folder.

METZGAR CO.

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

416 Douglas, N. W.

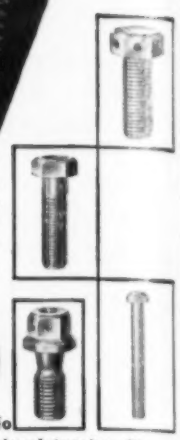
GRAND RAPIDS 4, MICH.

▲ For more details circle NED-791 C3 on enclosed inquiry slip ▲

cold forged metal fasteners

● For (✓) high quality material, (✓) precise machining, (✓) fast assembly, and (✓) good appearance, specify CHANDLER cold forged metal fasteners. They are manufactured from tested high quality alloy steel by the most modern machinery and methods. Every fastener must pass rigid inspection to make sure it meets your specifications. This uniform high quality makes assembly faster, and smoothly finished heads assure good appearance of the completed assemblies.

Specialists in Alloy Bolts . . . Grinding to close tolerances . . . Drilled heads or shanks. Diameters 1/4" 5/16" 3/8" to 3" in length and diameters 7/16" 1/2" 9/16" to 5" in length. 960-CH



Manufacturers of Place Self Locking Bolts

Chandler Products Corp.

1495 Chardon Road • Cleveland 17, Ohio

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Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American Industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.

MILWAUKEE 3, WISCONSIN

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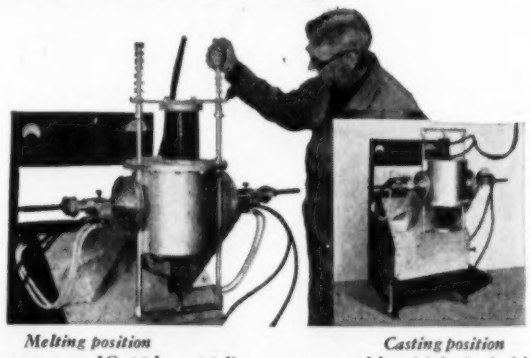
Direct-casting Electric Furnace for better, faster precision investment casting



Melting position *Casting position*

The new, type IC, 12 kw., 10-lb. Detroit Electric Furnace melts and pours heats of chrome-nickel, Stellite or superalloy steels in 9-12 minutes. Casting is done by inverting the furnace, pouring directly into the investment mold which is held in place by air pressure. Melting by fast, controlled, indirect arc minimizes carbon pickup and alloy variation. Simple, efficient operation is ideal for high production of precision castings.

Write for complete information.

DETROIT ELECTRIC FURNACE DIVISION

KUHLMAN ELECTRIC COMPANY

1060 26th St. • BAY CITY, MICHIGAN

Foreign Representatives: In BRAZIL—Equipamentos Industrias, "Eisa" Ltd., Sao Paulo; CHILE, ARGENTINA, PERU and VENEZUELA: M. Castellvi Inc., 150 Broadway, New York 7, N. Y.; MEXICO: Cia Proveedora de Industrias, Atenas 32-13, Apartado 27A3, Mexico 6, D. F., Mexico; EUROPE, ENGLAND: Birlec, Ltd., Birmingham.

▲ For more details circle NED-794 C3 on enclosed inquiry slip ▲

3 reasons why
DeLuxe Steel Shelving
costs you less

The real cost of shelving is the erected cost

1 **Fewer Parts**—DeLuxe has designed one part where ordinary shelving uses three. Example, our bin-type "I-Beam" upright. *Fewer parts mean fewer man hours to install.*

2 **80% Less Bolts**—DeLuxe shelving uses patented, boltless shelf brackets, thus requires *no tools* for either installation or adjustment.

3 **100% Adjustable**—Shelves in each section are independently adjustable, without disturbing other contents. DeLuxe shelving erects on the spot, in position where you want it . . . the only shelving that does all this.

There is a DeLuxe factory representative in your area who will give you our engineering, planning and layout service without obligation. Write today for free catalog.

DELUXE METAL FURNITURE CO.
305 Struthers St., Warren, Pa.
DeLuxe
For over 25 Years Manufacturers of: Storage Shelving
Library Shelving • Storage Cabinets • Shop Equipment

For more details circle NED-795 C3 on enclosed inquiry slip

HANDLING TRUCK
compact unit made in six models for handling loads up to 800 lb

Xpediter is a compact material handling truck which features short turning radius, front wheel steering and light weight for operation on floors and elevators of limited loading. Operator rides on pedal platform, foot pressure on which controls forward and reverse direction and speed. Six models, with hydraulic and manual lifts, enable handling up to 800 lb on 12-in. load center.

Power is furnished by a Wisconsin AEN 7.5 hp, four-cycle, air-cooled engine, operating through multiple disk clutch to a two-wheel drive rear axle. Maximum forward speed is 9 mph. Truck will operate in 56-in. aisle and can turn in 68-in. radius. Various accessories for handling boxes, barrels, drums, bags, castings and machined parts are available, along with trailer hitch, traction tread tires, horn, bell and 6-v electric starter and generator. Made by **Kalamazoo Mfg. Co.**, 1827 Reed St., Kalamazoo 24F, Mich.

For more details circle NED-798 C3 on enclosed inquiry slip

KENT presents a sturdy truck to carry the Kent Suction Cleaner and extra dirt receptacle!

for WET or DRY work!

Units installed on truck or removed in a jiffy, no tools required. Cleaner quickly available for separate use, including as a blower! Tension spring holds adjustable handle in position shown when not pulling truck. Automatic shut-off valve operates when BOTH tanks are full of liquid — none can enter fans or motor!

Over 40 Years Serving the World with Quality Equipment

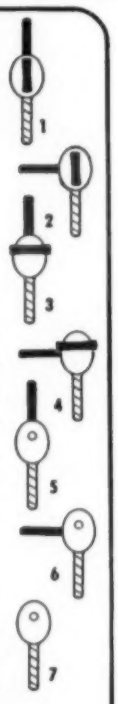
Full information upon Request

CLEAN WITH KENT EQUIPMENT

The KENT Company, Inc. • 449 Canal Street • Rome, N. Y.

For more details circle NED-801 C3 on enclosed inquiry slip

NEW!
Porter-Cable
1/2" DRILL
with
7 Grip Positions



HERE'S a new standard duty 1/2" drill you can really "bear down on." Its 2-position auxiliary handle permits extra leverage on the tough jobs. Its exclusive rear handle adjusts horizontally or vertically so you can lean into the work... you can even remove the rear handle—or both handles—and concentrate your whole strength behind the drill body.

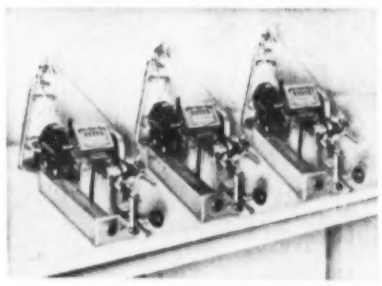
Features: heavy, precision-ground Jacobs gear-type chuck . . . double compound reduction gears . . . combination ball radial and thrust bearings. U.L. listed.

At Your Porter-Cable dealer's $48.50
(New 1/4" Drill $28.50)

PORTER-CABLE Machine Company
1403 N. Salina Street, Syracuse 8, N. Y.
Manufacturers of Speedmatic & Guild Electric Tools
In Canada write: Strongridge Ltd., London, Ont.

For more details circle NED-796 C3 on enclosed inquiry slip

FINE WIRE BOBBIN WINDER
unit starts slowly, but reaches top winding speed of 7000 rpm

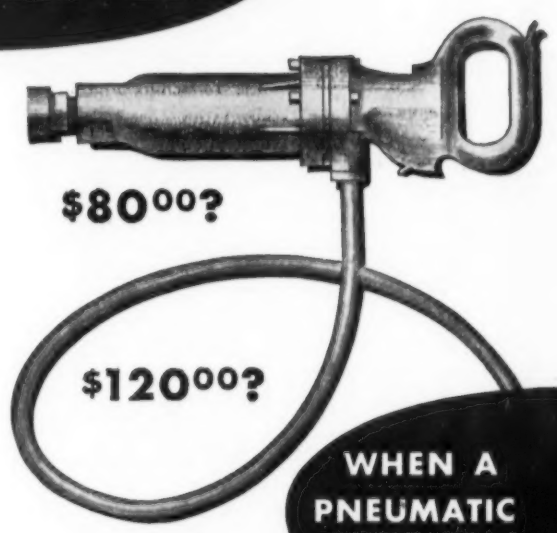


Zivy automatic counter on model 111-A fine wire bobbin winder permits instant resetting of winding cycle by merely touching lever. Machine features a slow start to avoid wire breakage. It builds up gradually to 100 rpm during first 1, 2 or 3 seconds, as desired, then shifts into high speed to reach maximum 7000 rpm. Winder measures 21¾ x 8 x 12 in. and weighs 42 lb. Three or four machines placed side by side can be run by one operator.

All types of random wound bobbin coils, solenoids, repeater coils and noninductive resistors can be wound in coil sizes up to ⅞ in. wide and 1¼ in. OD. Model 92-6 De-Reeler tension is furnished for handling 24 to 44-gage wire and spools up to 6-in. diameter. A ¼-hp variable speed ac-dc motor and foot-operated speed control for 115-v operation is standard. Step down transformer is available for 230-v operation. Made by **Geo. Stevens Mfg. Co.**, 6024 N. Rogers Ave., Chicago 30, Ill.

For more details circle NED-799 C3 on enclosed inquiry slip

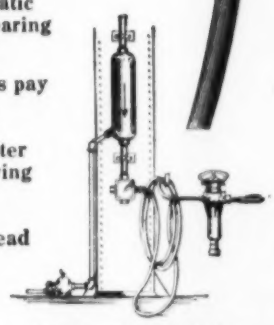
HOW MUCH DOES IT COST YOU...



WHEN A PNEUMATIC TOOL FAILS?

One failure of a pneumatic tool costs more than a line type Hi-eF Purifier! These low-cost units installed *immediately* ahead of the air tool keep out of the air line all dirt particles and moisture that materially shorten the life of pneumatic equipment—corroding and wearing out vital parts.

These amazing, low-cost units pay you a rich profit by adding months to the life of your air equipment. Installed in a matter of minutes, they have no moving parts—nothing to wear out, nothing to clog up. See your distributor today. Try one ahead of your most troublesome air tool. Mail coupon for literature and prices.



It costs only $13.20 for this Hi-eF Purifier on a 3/4" line.

WATCHDOG OF STEAM • AIR • GAS VAPOR • PIPELINES AND EQUIPMENT.

ANDERSON Hi-eF PURIFIERS

THE V. D. ANDERSON CO.
1975 West 96th Street • Cleveland 2, Ohio
Please send literature and prices on small line type purifiers.

Name ..... Title .....
Company .....
Address .....
City ..... State .....

BY THE MAKERS OF SUPER-SILVERTOP STEAM TRAPS

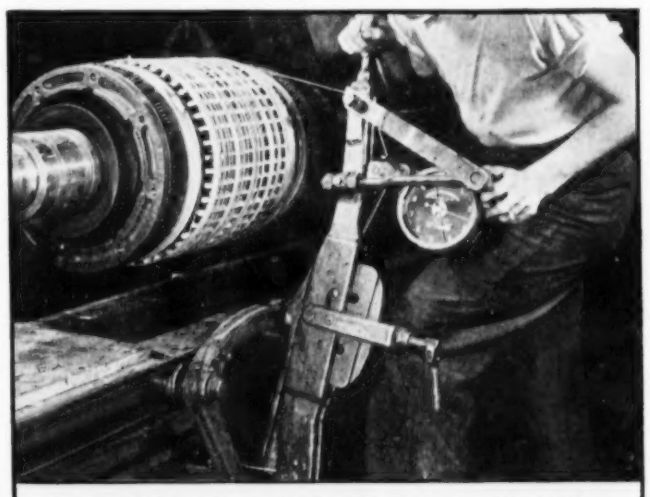
For more details circle NED-802 C3 on enclosed inquiry slip

For specifications and prices on the complete line of Ballymore Safety Step Ladders, send for free catalog. Ballymore Company, Wayne 3, Pa.

Ballymore SAFETY LADDERS

BALLYMORE SAFETY STEP LADDERS

For more details circle NED-797 C3 on enclosed inquiry slip



MEASURING TENSION IN A MOVING WIRE WITH A DILLON DYNAMOMETER

13 different capacities from 0-500 lbs. up to 0-100,000 lbs. Compact, light weight. Supplied with max. pointer and shackles. Instantly reads load applied by hoists, air pistons, turnbuckles, etc. Overload protected.

WRITE FOR ILLUSTRATED LITERATURE AND FREE TENSILE STRENGTH COMPUTER

W. C. DILLON & CO., INC. 14620 NE KESWICK ST., VAN NUYS, CALIF. (Suburb of Los Angeles)

For more details circle NED-800 C3 on enclosed inquiry slip

How to get the right drill for YOUR job!

The *right drill for the job* saves you time, money—and gives you better work! Why settle for a drill that's "almost" right?

PET Superduty drills are made in 54 distinct models, each with speeds and rated power that industrial users have asked for. Result? You can choose the drill that's *exactly* right for your job!

To top it off, every PET Superduty drill is built for rugged service. Dynamically balanced armatures stop vibration. Forced ventilation keeps them cool. Precision-cut gears run smooth, stay quiet. Big reserve power makes motors last longer.

Free Catalog can save money—for YOU!

If you want details on the best in electric drills—*at prices that will come as a pleasant surprise*—get the illustrated PET Superduty catalog! For your free copy, and name of your nearest PET distributor, write today to Dept. ND-33.

PET POWER TOOLS

PORTABLE ELECTRIC TOOLS, INC.
320 West 83rd Street, Chicago 20, Illinois
In Canada: Portable Electric Tools, Ltd., Toronto, Ontario

For more details circle NED-803 C3 on enclosed inquiry slip

THE LITTLE BIG SHOT IN PLASTICS!

Small but powerful . . . the LEWIS "4" is the lowest cost machine available today for production molding of lightweight large-area parts. Only the LEWIS "4" can mass produce 2 to 3-ounce parts in molds originally designed for 8-ounce machines. It's compact . . . simple to operate . . . economical to buy and use.

The LEWIS "4" features semi-automatic operation, multiple shot injection and full-mold high-pressure injection at low plunger pressures. Exclusive fast-opening crank-operated die-lock mechanism permits operator to release dies and clear jammed nozzles in 20 seconds or less without leaving the operating panel.

The LEWIS "4" handles almost any molding material and accommodates molds up to 12x23" mounted vertically and 13⅜x20", horizontally . . . yet it requires only 16 sq. ft. of floor space and operates so quietly you can use it anywhere.

Dollar for dollar, the LEWIS "4" gives you more!

Write today for illustrated Catalog No. 101 for additional details.

1094-LW

LEWIS THE LEWIS WELDING & ENGINEERING CORPORATION
14 INTERSTATE STREET • BEDFORD, OHIO

For more details circle NED-804 C3 on enclosed inquiry slip

FITTING RECONDITIONER utilizes flame cutting machine

Reworking, reconditioning and salvaging all types of new and used welding ells, tees, flanges, reducers and other fittings is possible with the Universal flame cutting machine. It can be used to cut to any angle, shorten, recut and bevel used fittings, cut small miters and holes in blanks, make swedges out of welding caps and cut and bevel short pieces of pipe up to 36 in. diameter. Flame cutter is mounted on steel base and has unitized control panel and gas control valve. Table which holds fitting revolves in either direction at a speed variable from 0 to 5 rpm. The adjustable degree plate permits fitting to be cut at any desired angle. Cut is clean and does not require hand fitting. Made by **Vernon Tool Co.**, 1123 Meridian Ave., Alhambra, Calif.

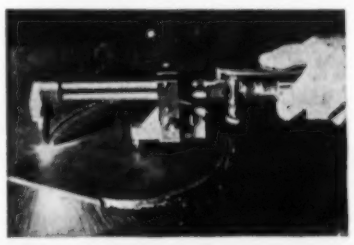
For more details circle NED-805 C3 on enclosed inquiry slip

PURGE FLOW METER for small flows of fluids

For use where compactness is desirable, SK purge Rotameters indicate and manually control small flows of fluids with good reproducibility, but with moderate actual measuring accuracy. Rate of flow of fluid passing through the variable area type flow meters is indicated by the position of a ball float moving in the tapered glass meter tube. Rate is read in reference to the center of the ball float on a scale. A check valve is incorporated to prevent back flow. Meter installation must be in a vertical position. Made by **Schutte & Koerting Co.**, Dept. M-C, Cornwells Heights, Bucks County, Pa.

For more details circle NED-806 C3 on enclosed inquiry slip

CUTTING TORCH GUIDES simplify various shape cutting jobs



Precision cutting guides for individual gas flame metal cutting torches enable workmen to cut circles, straight lines, bevels and sundry shapes accurately. Guides are made in styles to fit standard cutting torches and include circle guide for 1 to 15-in. diameter circles, guide for 10 to 66-in. diameter circles and straight-line guide for straight, 60-degree and 45-degree bevel cutting. Devices are attached to torch in a couple of minutes, and fingertip adjustments are possible. Torch is held at most effective distance to assure clean cuts. Made by **New Era Engineering Co.**, Dept. G-49, 458 W. 29th St., Chicago 16, Ill.

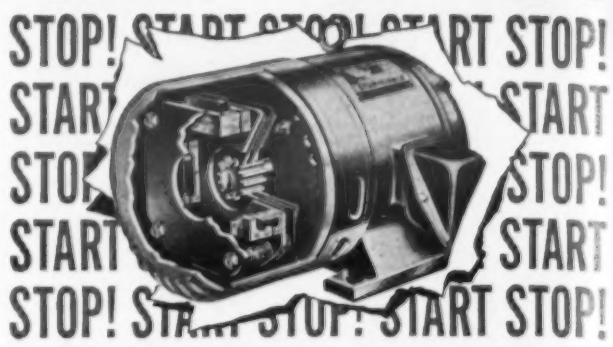
For more details circle NED-807 C3 on enclosed inquiry slip

WIRE DRAWING DIE CHECKER measures entrance angles accurately

Entrance angles of carbide wire drawing dies as small as 0.005-in. can be measured accurately with this Die-Angle Scope. It assures control of wire drawing processes because multiple angles and poor polish become obvious immediately. Device is accurate within 10 minutes of arc. Instrument includes integral light source and transformer. Made by **American Optical Co.**, Instrument Div., Dept. NED, Sugar & Eggert Rds., Buffalo 15, N. Y.

For more details circle NED-808 C3 on enclosed inquiry slip

Positive, SPLIT-SECOND stopping with Star-Kimble Brakemotors



Note the extra-large brakelining area on a Star-Kimble Brakemotor. It brings motor and load to the same sure fraction-of-a-second stop through millions of operations. Smooth no-drag starting, too, and fast reversals without the heat and strains resulting from plugging.

A Star-Kimble Brakemotor is a compact, integral unit. One manufacturer—one responsibility.

For information on design and service features, write for Bulletin B-501-A

STAR-KIMBLE
MOTOR DIVISION OF
MIEHLE PRINTING PRESS AND MFG. CO.
214 Bloomfield Avenue, Bloomfield, New Jersey

For more details circle NED-809 C3 on enclosed inquiry slip

Bready UTILITY TRACTOR FOR INDUSTRY

Bready Utility Tractors perform hundreds of jobs around the industrial plant. Sturdy and dependable, they are recommended for clearing snow from drives and parking lots . . . mowing and rolling lawns . . . grading . . . spraying paint . . . light hauling of supplies and parts . . . operating air compressors . . as a mobile power source, etc.

Easy-to-handle Bready Utility Tractors are engineered to give a long, trouble-free service life. Models from 2 to 3 h. p. are available to fit the needs of any plant.

Write today for complete information.

1060-BT

Bready THE BREADY TRACTOR & IMPLEMENT CO.
280103 AURORA RD. • SOLON, OHIO

For more details circle NED-810 C3 on enclosed inquiry slip

Give you *LEGIBILITY* that *lasts* in metal

Why not let experienced Grammes craftsmen help design the plate that is right for your product? Whether etched, embossed, lithographed or enameled—aluminum, brass or stainless steel—they'll make sure your plate has the right finish for attractiveness and wearability . . . and resists corrosion or deteriorating elements.

PROMPT DESIGN SERVICE Your rough sketch or blueprint will bring prompt recommendations and prices. Meantime write for our new booklet, "Tips on Name Plate Selection and Design."

NAME PLATES DIALS — **L.F. GRAMMES & SONS** INCORPORATED ALLENTOWN, PA. — TRIMS • BEZELS PANELS

SPECIALISTS IN DECORATIVE METAL

For more details circle NED-811 C3 on enclosed inquiry slip

CRANE Packless Diaphragm Valves

Now Available in New Materials

WORKING PRESSURES—up to 150 pounds, water, air, oil, or gas, 180° F. max. temp., depending on valve size and materials.

SCREWED ENDS, UNLINED Sizes ½ to 2 in.
Brass, Cast Iron, Aluminum, or 18-8 Mo body and disc. Furnished with neoprene, Buna N, or natural rubber diaphragm and disc insert.

FLANGED ENDS, UNLINED Sizes ½ to 6 in.
Cast Iron, Aluminum, or 18-8 Mo body and disc. Furnished with neoprene, Buna N, or natural rubber diaphragm and disc insert.

FLANGED ENDS, LINED Sizes 1 to 6 in.
Cast iron body only. Lined with neoprene or hard natural rubber. Disc coated with neoprene or soft natural rubber.

•

Other body and disc materials, as well as linings, available on special order. Also sliding stem valves for automatic operators of all types. See your Crane No. 53 Catalog for complete line specifications or consult your Crane Representative.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

For more details circle NED-812 C3 on enclosed inquiry slip

for OVER-UNDER WEIGHING with TOLEDO SPEEDWEIGH®

Here's *new speed with accuracy* for you in check weighing, packaging, many other operations today . . . 3 sizes —to 5 lb., to 20 lb., to 50 lb.! Shadowfree wide-angle reading . . . accurate to 1/64 of an ounce . . . new improved knife-edge check link system . . . *exclusive* "coined" bearings for greater accuracy, longer life . . . stainless steel beam . . . enclosed levers in one-piece housing . . . choice of platters and scoops . . . many more *plus* features! Write for bulletin 1416. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO® Headquarters for SCALES

For more details circle NED-813 C3 on enclosed inquiry slip

Brand New!

LINEMASTER TWIN COMPACT

THE LIGHTEST, TINIEST, MOST EFFICIENT FORWARD-REVERSE SWITCH

ONLY $8.50* (*less in quantities)

Tell us your special problems and let us quote

Write for folder and prices TODAY

Try TWIN-COMPACT — the new midget marvel with twice the size, twice the efficiency of the sensational LINEMASTER COMPACT, because it works *both* ways. TWIN-COMPACT, is foolproof, sensitive — responds to touch of foot, finger, knee or elbow. SMALL — a pair of 6½ oz. Compacts mounted on a non-skid base. Yet AMAZINGLY RUGGED — made of heavy-gauge steel with handsome black crackle finish. Use TWIN-COMPACT PROFITABLY for an unlimited number of industrial small machine operations.

LINEMASTER SWITCH CORP.
118 Putnam Rd. • Woodstock, Conn.

For more details circle NED-814 C3 on enclosed inquiry slip

New Processes and Materials

SPECIAL PURPOSE PAINTS
damp-proof, iceproof, skidproof and rust resistant finishes offered

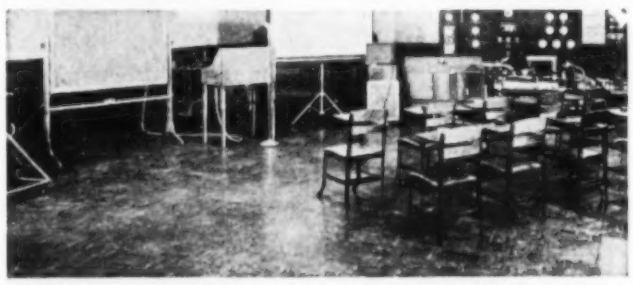
An iceproof enamel, which can be applied in any temperature down to −50° F is one of four special-purpose paints developed for particular industrial applications. It can be applied to cold storage warehouses, chill rooms and other locations. Odorless and noncontaminating damp-proof enamel as well as its undercoater and thinner withstand mild acids, alkalies and repeated washings with strong cleaning compounds. Paint flows freely at temperatures as low as 32° F and will take moisture out of walls that are actually wet, at the same time allowing condensed moisture to run off.

Third new finish is Rust-No-More metal paint which prevents rust from forming on new metal surfaces and seals off and stops formation of additional rust where it has already started to form. Fourth finish is a safety floor compound that prevents slipping on floors, ramps, stairs or docks made of wood, metal or concrete. It is filled with fibers and resists chemicals, oils and dampness. Made by **Koch Supplies**, 2516 Holmes St., Kansas City 8, Mo.

For more details circle NED-815 C3 on enclosed inquiry slip

PLASTIC FLOOR FINISH
forms nonglare, nonskid finish

When applied with a mop, Skid-Not colorless plastic floor finish forms a semigloss, nonglare and nonskid coating that reportedly lasts three to four times as

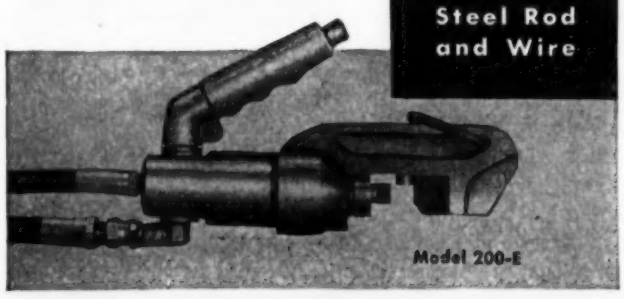


long as wax. Liquid can be applied over varnished or enameled wood, rubber or asphalt tile, cork, terrazo or magnesite floors and will not change color of the flooring. Rubber skid marks and traffic stains can be easily removed from coating without damage to its finish. Developed by **Monroe Co.**, Dept. M-1, 10703 Quebec Ave., Cleveland 6, O.

For more details circle NED-816 C3 on enclosed inquiry slip

FAST CUTTING

MANCO GUILLOTINE For Steel Rod and Wire

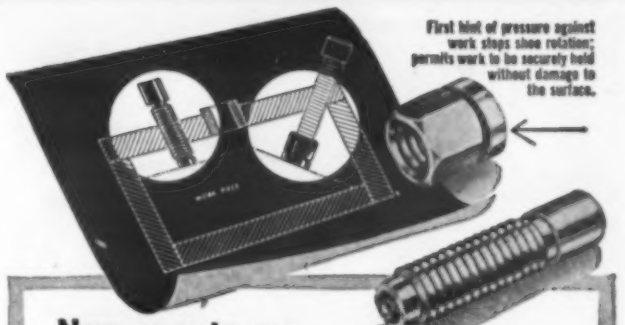


For fast production cutting of steel rod and wire. Capacity ½" steel rod. Less than one second per cut. Easy-action thumb button valve . . . no solenoids. Proven performer now used in many rod mills. Light-weight cutting head weighs only 10 lbs. High-speed electric hydraulic pump provides 10 tons thrust. Available also with compressed air and manually operated pumps. Can be adapted for riveting, punching, and swedging.

Write for Information
Dept. NED-3

MANCO MFG. CO. | BRADLEY, ILLINOIS

For more details circle NED-817 C3 on enclosed inquiry slip



New, easy-to-use

Allied Swivel Shoes

hold parts *rigid*... without marring surface!

Hundreds of uses for these uniform cost-cutters! Thousands now in use on drill jigs, shop tools, screw turrets, mill fixtures... *wherever parts or tools must be securely held without burring or marking the surface!* They hold parts tighter; make possible more accurate machining. Standardizing throughout the shop *eliminates costly on-the-job machining of special shoes!*

Their cost? Only a fraction of what they save the average shop in one hour's time! Hardened for long life, they *can be used on job after job!* Ask your distributor for Allied Swivel Shoes today!

TWO TYPES AVAILABLE:
Hexagon Swivel: fits any size or type screw. Swivel Set: socket-head screw; 15/16", 3/8", 1/2", 5/8" and 3/4" diam. Any length.

Allied Swivel Shoes

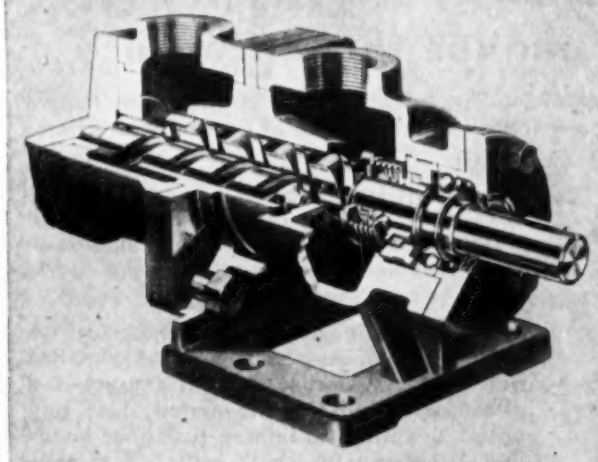
ALLIED AIR PARTS • 662 No. Robertson Blvd. • Los Angeles 46, Calif.

For more details circle NED-818 C3 on enclosed inquiry slip

DE LAVAL IMO PUMPS

Your De Laval Field Representative can help solve your pumping problems.

Profit by his sound, versatile experience. He can aid you in selecting the IMO Pump you need... give you facts and figures on performance . . . bring valuable judgment to bear on your specific fluid handling application.



For example, De Laval-IMO Series A313B Pump handles light or viscous fluids in hydraulic systems, rotary and steam atomizing oil burners, lubrication, governing systems and similar services. Use it for capacities to 80 gpm, pressures to 275 psi and intermittent pressures to 325 psi.

IMO Rotary Pumps have only three moving parts . . . offer all these advantages: high speed operation, quietness, freedom from vibration, simplicity and reliability. Models can be furnished for almost any fluid handling problem in capacities to 750 gpm and pressures to 1,500 psig. *Ask for Bulletin LG-A which gives data in chart form on the wide range IMO line.*

DE LAVAL *IMO Pumps*

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

DL194

For more details circle NED-819 C3 on enclosed inquiry slip

Left— Union Special Style 20100 H Bag Closing Machine

Here's how to close MULTIWALL PAPER BAGS

FOR lower production costs ...stronger, neater closures ...ability to get out rush orders in a hurry, you can't beat Union Special Bag Closing Machines! Specially built to stand up under heavy production schedules, these machines provide the high output rates needed to meet modern competitive conditions.

In the Union Special line, it's easy to find the right unit to meet your particular requirements. ASK FOR RECOMMENDATIONS.

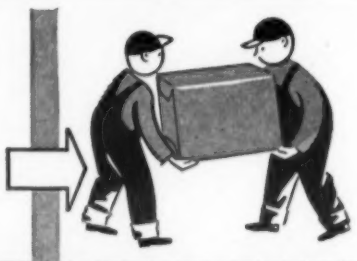
SEND FOR THIS BULLETIN!

Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 416 North Franklin Street, Chicago 10, Illinois

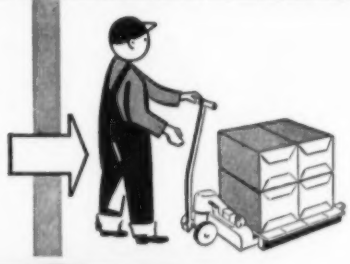
UNION SPECIAL

▲ For more details circle NED-821 C3 on enclosed inquiry slip ▲

This man's WASTED



This man ISN'T



RAYMOND

Lightweight LIFT TRUCK makes the difference

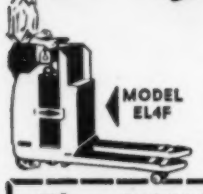
BEFORE — two men or more struggled to handle heavy loads. What a waste of precious work-time!

NOW one man plus a *RAYMOND* Lightweight Lift Truck handles 1-ton pallet loads with ease. The secret? Hydraulic power does all the lifting — a few quick pumps on the convenient foot pedal and the load's ready to be moved.

RAYMOND Lightweight Lift Trucks are so maneuverable they squeeze into hard-to-get-at places. Pallet entry is smooth and effortless — lateral movement, fast and easy. Use them to lighten rush hour handling — speed up short hauls — release power trucks for long hauls and tiering.

MODEL L2P

RAYMOND Lightweight LIFT TRUCK for double-face pallets illustrated. Also in Heavy-Duty Models with 2 or 3-ton capacities.



MODEL EL4F

SPEEDS UP TO 6 MPH!

RAYMOND Low-Lift Rider Type Electric Truck. Ideal for long hauls, stock picking, loading, unloading. Capacity 2 tons.

The RAYMOND CORPORATION
Formerly LYON-Raymond Corporation
4164 Madison St., Greene, N.Y.

Gentlemen: Please send me the Bulletins indicated: 223, Lightweight Lift Truck; 222, Heavy Duty Lift Truck; 750, Low-Lift Rider Type Electric Truck.

Name ..... Title .....
Company .....
Street .....
City ..... State .....

▲ For more details circle NED-822 C3 on enclosed inquiry slip ▲

New Literature and Catalogs

Repair & Maintenance Parts & Equipment

Harry Alter Co.—Just off the press, the Spring and Summer Dependabook is available to engineering, production, maintenance and buying officials. In addition to describing General Electric motors, motor parts and starters, this guidebook lists over 9000 items including parts and supplies for the refrigeration, television, radio, air conditioning, heating and electric motor fields. Ask for No. 158.

▲ For more details circle NED-823 C3 on enclosed inquiry slip ▲

Rubberized Abrasives

Cratex Mfg. Co.—Cushioned action is feature of line of rubberized abrasives offered in 8-page illustrated catalog and price list No. 53. Rubberized abrasive wheels, points, blocks, sticks and cones for burring, smoothing, cleaning, blending, lapping, finishing and trimming operations are presented.

▲ For more details circle NED-824 C3 on enclosed inquiry slip ▲

Aluminum Tubing

Aluminum Co. of America—Low cost, workability, high fatigue strength and light weight are but a few of the advantages reported for Alcoa aluminum Utilitube in 8-page illustrated bulletin AD-270. Described applications range from air lines to water stills. Other factors treated include installation, properties, conversion factors, bursting pressures and sales offices for 1/8 to 3/4-in. OD Utilitube.

▲ For more details circle NED-825 C3 on enclosed inquiry slip ▲

Standard Metal Cutting Tools

Illinois Tool Works—48-page illustrated net price catalog 101 deals with standard cutting tools, including end mills, saws, milling cutters, tool bits, hobs and shaper cutters. Dimensions and tool numbers are given.

▲ For more details circle NED-826 C3 on enclosed inquiry slip ▲

Masonite Applications

Masonite Corp.—Offered as guide for product designers, 20-page illustrated booklet 5207 covers uses of Masonite Presdwood in fields of furnishings, transportation, merchandising display, machinery, manufacturing, power, lighting and electronics. Text describes uses, advantages, properties, working, finishing and available types and sizes.

▲ For more details circle NED-827 C3 on enclosed inquiry slip ▲

Belt Conveyors

Jeffrey Mfg. Co.—90-page illustrated belt conveyor catalog 852 is a handbook on this subject. All needed equipment and accessories for engineering and applying conveyors of practically any length are described, together with data to aid in selection of components. Belt conveyor pulleys, idlers, feeders, belts, take-ups and related accessories are detailed.

▲ For more details circle NED-828 C3 on enclosed inquiry slip ▲

Automatic Plating Equipment

Frederic B. Stevens, Inc.—Automatic rack type plating equipment is subject of 8-page illustrated catalog 61. Machines described are capable of handling such operations as heavy duty cleaning, pickling and bright dipping as well as plating.

▲ For more details circle NED-829 C3 on enclosed inquiry slip ▲

Torque Converter Drives

Twin Disc Clutch Co.—How truck type three-stage hydraulic torque converter drives improve performance, prolong equipment life and prevent operator fatigue are related in 12-page illustrated bulletin 501. Design, performance and uses are discussed.

▲ For more details circle NED-830 C3 on enclosed inquiry slip ▲

Rotating Electrical Equipment

Electric Specialty Co. — Motors, motor-generator sets, dynamotors and converters are some of the specially designed electrical rotating units that are described in 12-page illustrated catalog 53 P-D. Both alternating and direct current machines are covered.

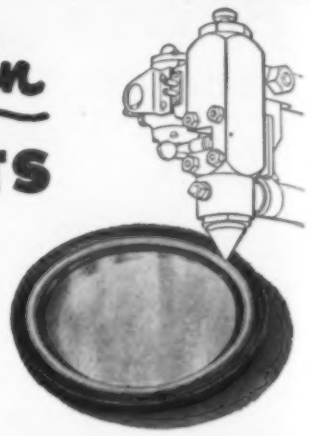
▲ For more details circle NED-831 C3 on enclosed inquiry slip ▲

High Pressure Gas Cylinders

Taylor-Wharton Iron & Steel Co.—Seamless high pressure gas cylinders for all fixed and liquefied gases are thoroughly described in 16-page illustrated bulletin which also explains the production facilities and history of this company.

▲ For more details circle NED-832 C3 on enclosed inquiry slip ▲

Flowed-in GASKETS



can cut costs and improve results!

Now! *Flow* gaskets into place at speeds up to 300 per minute. Gaskets become integral with the part — meet a wide range of problem conditions.

SIMPLE APPLICATION. Instead of installing pre-cut gaskets by hand, you merely *flow* a synthetic resin or rubber compound into position (horizontal or vertical surface). After baking, compound becomes solid, rubbery.

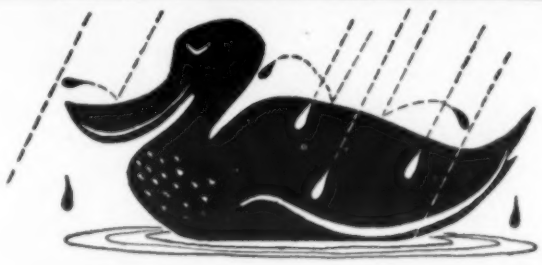
BUILT-IN RESISTANCE PROPERTIES. You create effective seals against weather, gases, solvents, moisture, oils, hydraulic fluids, pressure. Form shock-resistant cushions.

IMPORTANT ECONOMIES. You eliminate stamping, gluing, crimping, welding, and other time-consuming operations. Save on materials, too.

SEND FOR BOOKLET NOW.

DEWEY and ALMY Chemical Company
Cambridge 40, Mass.

▲ For more details circle NED-833 C3 on enclosed inquiry slip ▲



HOW TO DUCK THE WELD-SPATTER PROBLEM

Use Protect-O-Metal and weld spatter wipes off as easily as water from a duck's back! With Protect-O-Metal you speed welding and save up to 85% of weld cleaning time and labor. Brush or spray P. O. M. in weld seam and on adjacent metal—weld—then brush off spatter in seconds.

Just a little P. O. M. goes a long way too—costs less than 1/10c per foot of weld protected, saves up to three times its cost in time savings alone. Order a trial gallon ($3.25) satisfaction guaranteed or invoice will be cancelled.

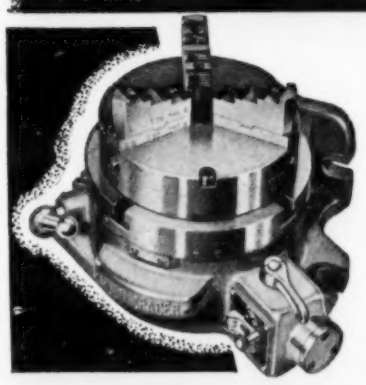
PROTECT-O-METAL POM

G.W.SMITH

G. W. SMITH & SONS, INC., *5406 Kemp Road, Dayton, O.*

▲ For more details circle NED-834 C3 on enclosed inquiry slip ▲

New Indexing Fixture with Built-in Selector



THE NEW GORTON Multi-Spacer

A time-saver for all types of milling, drilling, boring and grinding operations. Eliminates extra job set-ups. Features built-in automatic selector; permanent index discs; no loose parts — no discs to change; 9" dia. table; sealed mechanism; vertical or horizontal set-up; milled base for 1/2", 5/8" or 11/16" keys. Available with seven positions . . . 2, 3, 4, 6, 8, 12 and 24 divisions.

FREE BULLETIN!

For detailed information on the Multi-Spacer and numerous other Gorton Time-saving Machine Tool Accessories write today for Free Bulletin No. 1317.

GEORGE GORTON MACHINE CO.
1903 RACINE ST., RACINE, WISCONSIN

▲ For more details circle NED-835 C3 on enclosed inquiry slip ▲

DOUBLE YOUR MONEY BACK!

• Users tell us that MICRO-KLEAN cartridges have twice the effective life of ordinary filter cartridges. But we'll leave it up to you. Try a MICRO-KLEAN cartridge. If it doesn't outperform any cartridge you've previously used, we'll send you double your money back. (Standard cartridges are 9¾" long x 2¾" O.D., in densities of 10, 25 and 50 microns.) Write to Cuno Engineering Corp., Dept. 709M South Vine Street, Meriden, Conn.

▲ For more details circle NED-836 C3 on enclosed inquiry slip ▲

BOURNS presents the New TRIMPOT

Trade Mark

An adjustable . . . Sub-miniature potentiometer for precise circuit trimming

BOURNS TRIMPOT is a wire-wound potentiometer designed for miniaturized equipment. Adjustments are simple and accurate . . . they are made by turning the exposed slotted shaft with a screw driver. Settings are securely maintained during severe shock, acceleration and vibration.

TRIMPOTs can be installed individually or in stacked assemblies with two mounting screws through the eyelets in the body. Superior electrical characteristics are achieved by the use of precious metal contacts and precision resistors.

BOURNS designs and manufactures other potentiometers which measure linear motion, gage pressure, differential pressure, altitude and acceleration.

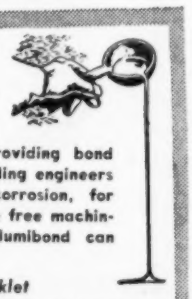
BOURNS LABORATORIES
6135 Magnolia Avenue, Riverside, California
Technical Bulletin on request, Dept. 122

▲ For more details circle NED-837 C3 on enclosed inquiry slip ▲

How to bond steel's **brawn** to aluminum's **lightness**.

Alumibond: unique casting of aluminum to ferrous metals

An amazing new process—ALUMIBOND—enables you to combine the best qualities of aluminum and ferrous metals. If you have problems involving heat transfer, joining, weight saving, oxidation resistance, bearing surfaces—Alumibond can do an unusually successful job for you providing bond strength of 18,000 psi at interface junctions. Leading engineers now employ Alumibond to aid resistance to corrosion, for greater conductivity or heat dissipation, for more free machinability. In hundreds of similar applications, Alumibond can solve your design and production problems.



Write today for new Alumibond booklet

ARTHUR TICKLE ENGINEERING WORKS
20 Delevan St., Brooklyn 31, N.Y. MAin 5-4200

▲ For more details circle NED-838 C3 on enclosed inquiry slip ▲

New Processes & Materials

WATERPROOF DRAWING INK for use on any type of plastic

Adhering to all plastics without chipping, crawling or rubbing, Artone Acetate waterproof drawing ink is available in several opaque and transparent colors, plus black and white. Permanent and removable types are offered, either of which can be used for color separations, overlays, engineering drawings, cartography, negative identification, etc. Inks are resistant to alkalies, acids and oils, will not run and have normal drying times. Application is by brush or pen. Made by **Artone Color Corp.**, Dept. NE, 21 W. Third St., New York 12, N. Y.

▲ For more details circle NED-839 C3 on enclosed inquiry slip ▲

FERROUS METAL CLEANER is phosphoric acid concentrate

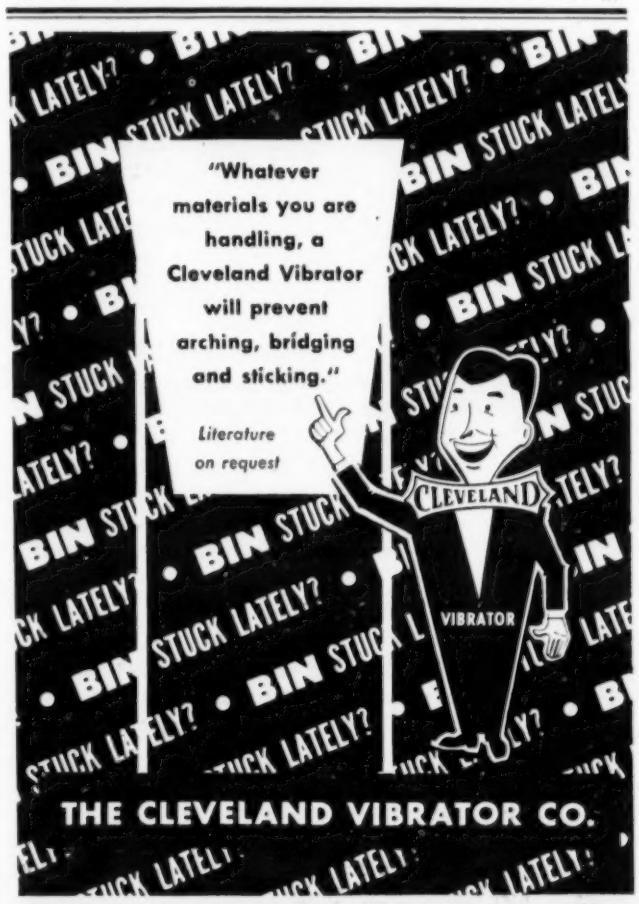
Phosphoric acid cleaner in concentrate form, designated Rust-Sol No. 123, can be applied by brush-on or immersion methods and rinsed off with clear water. Product dissolves surface salts, rust and scale from ferrous metal production pieces, and neutralizes and activates surface with slight etch and iron phosphate coating, an excellent base for paint. It can also be used following alkali stripping or cleaning. Cleaner can be used safely anywhere in plant, is nontoxic, noninflammable and nonvolatile and emits no corrosive fumes. Developed by **Klem Chemicals, Inc.**, 14417 Lanson Ave., Dearborn, Mich.

▲ For more details circle NED-840 C3 on enclosed inquiry slip ▲

WAX-FORTIFIED WATER COOLANT extends tool life, minimizes heat

Exceptional lubricating properties with heat minimized at its source is assured to metalworking machines employing water-soluble coolants by Johnson's No. 130 Wax-Cool, a wax-fortified water-type coolant. Emulsion provides the same wax advantages experienced with oil-type coolant containing wax. Tool life is extended and a high finish on metals is possible. Product is packaged in 30 and 55-gal drums as a concentrate and should be mixed with 20 parts of water before use. Formulated by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

▲ For more details circle NED-841 C3 on enclosed inquiry slip ▲



2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-842 C3 on enclosed inquiry slip ▲

Send for this New

FEDDERS

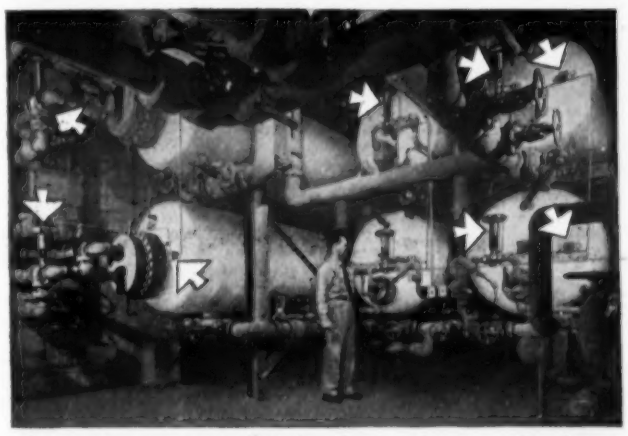
WALL RADIATION CATALOG

Fedders Wall Radiation saves space, gives lifetime heating efficiency, and cuts maintenance cost. Rugged, reinforced flat and sloping top cabinets for commercial, industrial and institutional uses.

Write for helpful new Catalog No. WR-C3.

FEDDERS-QUIGAN CORPORATION
57 Tonawanda St.—Dept. NE-3 Buffalo 7, N.Y.

▲ For more details circle NED-843 C3 on enclosed inquiry slip ▲



Water Heaters Controlled by Powers Accritem Regulators

What's Your Water Temperature Control Problem?

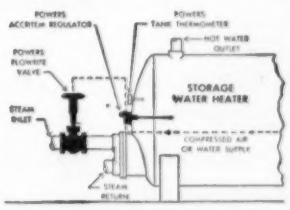
POWERS . . . with their many types of thermostatic regulators and 60 years experience is well qualified to help you find the right type of control for these applications:

Forced Hot Water Heating Systems; various types of Water Heaters and Heat Exchangers; Jacket Water Cooling for Air Compressors, Diesel and Gas Engines also Cyclotrons, Chocolate Enrobers and Plastic forming Presses; all types of Shower Baths and Hospital Hydrotherapy; processing X-Ray, Regular and Colored Film — and hundreds of other uses.

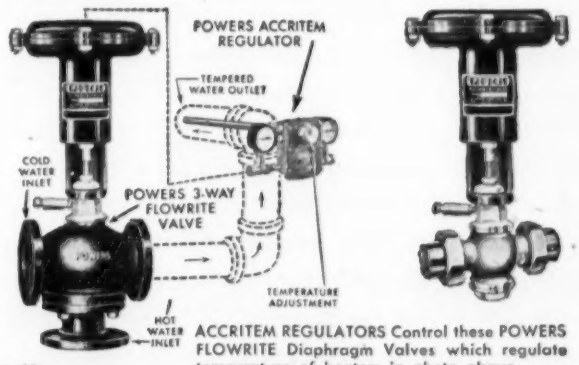
Only one of Powers varied line of water temperature controls is shown here . . . the *Accritem Regulator*. It's compressed air operated, has calibrated dial temperature adjustment, adjustable sensitivity and many other features described in *Condensed Catalog 3035*.

Compressed Air Operated

Only one of many applications Small Size. Bulb is 12" long



Powers Accritem Regulators Give Years Of Dependable Service



ACCRITEM REGULATORS Control these POWERS FLOWRITE Diaphragm Valves which regulate temperature of heaters in photo above.

(a92)

THE POWERS REGULATOR COMPANY
Skokie, Ill. • Offices in Over 50 Cities, see your phone book.
OVER 60 YEARS OF WATER TEMPERATURE CONTROL

▲ For more details circle NED-844 C3 on enclosed inquiry slip ▲

AT YOUR SERVICE

2 NEW Shenango bulletins

. . . on symmetrical or annular parts, ferrous and non-ferrous

FIND out about the many advantages and savings you stand to gain with Shenango centrifugally cast parts.

BULLETIN NO. 150 covers non-ferrous parts in manganese and aluminum bronzes, red bronzes, brass, Monel Metal and special alloys.

BULLETIN NO. 151 covers parts of Meehanite Metal, Ni-Resist and special iron alloys.

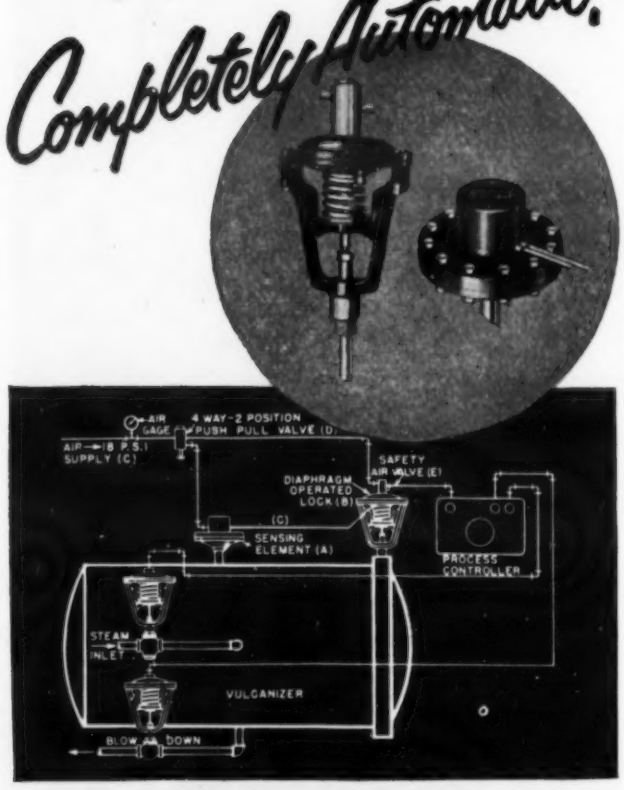
Either or both bulletins are yours for the asking.

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL

For more details circle NED-845 C3 on enclosed inquiry slip

Completely Automatic!



WESTON
Safety **DOOR LOCK**
for vulcanizers and other pressure vessels

Here's a truly automatic Safety Door Lock . . . one which requires no thought or action on the operator's part.

The door locks automatically whenever pressure reaches 10" of water . . . and it unlocks automatically *only* when pressure drops to that safe level.

The secret is the new but thoroughly proved sensing element, developed by WESTON, which operates dependably at the extremely low level of 10", or even less . . . yet withstands pressures up to 150 p.s.i. Elements for higher pressures also are available.

Installation of the WESTON Safety Door Lock is simple and quick. The complete story is available in bulletin form. Write for your copy. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, New Jersey.

WESTON *Instruments*
2647

For more details circle NED-846 C3 on enclosed inquiry slip

New Literature & Catalogs

Insulation Specifications

Johns-Manville—Compiled as a quick reference for engineers and others who must specify thermal insulations in refineries and process plants is 52-page illustrated brochure IN-128A entitled "Insulation Specifications." Insulations for temperatures above and below 100° F, tank and oil heater insulations are covered. Seven tables of thickness recommendations are included.

For more details circle NED-847 C3 on enclosed inquiry slip

Electric Blast Coil Heaters

Industrial Engineering & Equipment Co. — Four pages of tabulated data including ratings, dimensions and prices are featured in 12-page bulletin E-97U on "Electric Blast Coil Heaters." UL-approved heaters come as package units completely wired for connection to power system. Magnetic contactors are also described.

For more details circle NED-848 C3 on enclosed inquiry slip

Kraft Paper Products

Cincinnati Industries Inc.—"Story of Two Knives" is interesting title of 16-page illustrated brochure which describes X-Crepe, the double creped Cindus material made from Kraft paper. How it is used by producer of flexible air duct, by the beverage bottler, cigarette maker, lamp manufacturer, plastics laminator, auto and appliance manufacturer, upholstery material producer and in printing and binding is effectively described.

For more details circle NED-849 C3 on enclosed inquiry slip

Salt Pot Furnace

Eclipse Fuel Engineering Co.—Hardening and drawing operations in lead and heat treating salts are some of the work that can be performed in Eclipse gas-fired pot furnaces that are described in 8-page illustrated bulletin D-50. Capacities range up to 1,200,000 Btu and temperatures to 1650° F.

For more details circle NED-850 C3 on enclosed inquiry slip

Carbide Tool Grinding

Norton Co.—Technical bulletin "Electrolytically-assisted Diamond Wheel Dressing of Cemented Carbide" is report of extensive study on this subject. Paper is identified as No. 526.

For more details circle NED-851 C3 on enclosed inquiry slip

Industrial Disk Brakes

Goodyear Tire & Rubber Co., Aviation Products Div.—Twenty-two years of experience in designing and producing disk-type brakes for airplanes have resulted in the development of an airplane-type disk brake for industrial applications. Offered in diameters from 8 to 72 in., brakes are described in 8-page folder A 1725 K. Applications to such equipment as mine cars, paper machines, fire truck, high speed band saw and wind tunnel fan are discussed.

For more details circle NED-852 C3 on enclosed inquiry slip

How To Use Gage Blocks

Webber Gage Co.—Essential information for those using or planning to use gage blocks is contained in 36-page catalog "Micro-Accurate Gage Blocks." How gage blocks are made, their physical characteristics, how to use accessories, procedures in measuring angles and other practical data are discussed.

For more details circle NED-853 C3 on enclosed inquiry slip

Locomotive Cranes

Orton Crane & Shovel Co.—One doesn't buy a locomotive crane often. But, when one does, it's important to be familiar with the latest mechanical and performance features. The Orton locomotive crane described in 16-page illustrated catalog has a General Motors Allison torque converter, sealed antifriction bearings, air controls, automatic boom hoist brake, air controlled limit switch and roller bearing swing.

For more details circle NED-854 C3 on enclosed inquiry slip

Shaft-Mounted Speed Reducer

American Pulley Co.—Details of the new Shaft-King shaft-mounted speed reduction drive unit are presented in 20-page catalog. Drive selection tables, suggested applications, accessories and power transmission engineering data are included to aid in selection of proper size unit. Standard sizes in ratios of 13 to 1 and 20 to 1 cover speeds from 154 rpm down and power requirements through 40 hp. Drives fit shaft sizes up to 3 15/16 in.

For more details circle NED-855 C3 on enclosed inquiry slip

NOW FOR ALL YOUR NARROW-AISLE . . . CLOSE-QUARTER OPERATIONS

AUTOMATIC'S
NEW COMPLETE LINE OF
Transveyor RIDING TYPE ELECTRIC TRUCKS

NEW RIDING-TYPE ELECTRIC STACKER
2500 LBS. OR 4000 LBS. CAPACITY—48" LONG LOAD. Lightweight, compact, maneuverable, rugged. A low-cost stacker for extreme close-quarter lifting, moving and stacking in 6 foot aisles...on limited capacity floors and elevators.

NEW RIDING-TYPE ELECTRIC PALLET TRUCK
4000 LBS. CAPACITY—48" LONG LOAD. An overall length of only 29½" (less forks) makes possible right angle storing of 48" x 48" loads from aisles as narrow as 6½ feet.

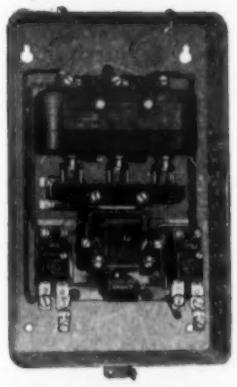
NEW RIDING-TYPE ELECTRIC PLATFORM TRUCK
4000 LBS. CAPACITY. Short, and highly maneuverable, the Transveyor Platform Truck speeds operations in congested areas in plant or warehouse and on narrow, crowded shipping docks.

Only **Transveyors** *have Balanced Action!* *Balanced Action automatically equalizes the load on both wheels regardless of floor conditions. Write today for full details!*

Automatic
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC INDUSTRIAL TRUCKS
61 W. 87th Street, Dept. C-3, Chicago 20, Illinois

For more details circle NED-856 C3 on enclosed inquiry slip

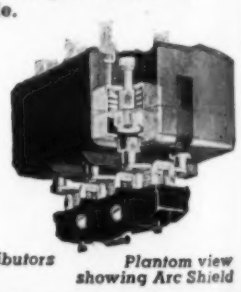
Now you can get **CLARK type "CY"**
the AC Starter with the revolutionary new arc-quenching principle in *SIZE 3*



Clark Bulletin 6013 Type "CY" Starter, Size 3, cover removed.

This new starter combines strong magnetic blow-outs and twin-break contacts — providing the extra protection and dependable operation of Mill-type, heavy duty construction. Contacts can be inspected without tools, and replaced without removing starter from cabinet. All parts are front removable.

Forced rotation and constant lengthening and confining of the arc means that the arc moves constantly from a hot to a cold spot on the contact surface. Contact life is greatly increased.



Available through Clark distributors

Plantom view showing Arc Shield

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1140 EAST 152ND STREET, CLEVELAND 10, OHIO

For more details circle NED-857 C3 on enclosed inquiry slip

BLAW-KNOX STEEL GRATING
in the Front Rank of Industry
ON ALL 5 COUNTS

OPEN SPACE • STRENGTH
LONG LIFE • CLEANNESS
SAFETY

Blaw-Knox Steel Grating is electroforged into rigid, one-piece panels, using twisted cross bars for firm footing. Bring your open steel flooring problems to Blaw-Knox for expert help. Bulletin 2365 sent on request.

BLAW-KNOX EQUIPMENT DIVISION
OF BLAW-KNOX COMPANY
2068 Farmers Bank Bldg.
Pittsburgh 22, Pa.

BLAW-KNOX *Electroforged* STEEL GRATING

For more details circle NED-858 C3 on enclosed inquiry slip

OTC OWATONNA TOOL COMPANY
436 CEDAR STREET, OWATONNA, MINN.

▲ For more details circle NED-859 C3 on enclosed inquiry slip ▲

BRUNING ELECTRIC ERASER

Saves hours of work... Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft — can't fly out and let ferrule gouge paper.

SAVES TIME . . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE . . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

Phone or write Bruning — there's an office near you — for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. S33 Teterboro, N. J. A-3-3

BRUNING
Everything for the Engineer and Draftsman

▲ For more details circle NED-860 C3 on enclosed inquiry slip ▲

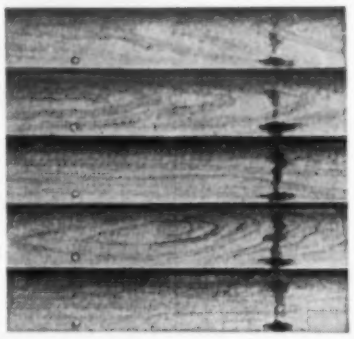
For space-saving, maintenance-free control of axial, radial and lateral pipe line motion, Flexonics Corporation offers three types of corrugated expansion joints—Free Flexing for pressures to 30 psi—Controlled Flexing for pressures to 300 psi—High Pressure Flexoniflex units for pressures to 5500 psi. Available with copper or stainless steel pressure carriers. All models are compact, easy to install, cannot leak, and require no packing or maintenance. Complete specifications are given in the new Flexon Expansion Joint Bulletin. Write for your free copy today.

CMH
CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

▲ For more details circle NED-861 C3 on enclosed inquiry slip ▲

New Processes & Materials

ALUMINUM NAILS made in variety of types



Highly resistant to corrosion, this line of aluminum nails includes wood siding nails, roofing nails with neoprene washers, asbestos siding and shingle nails, roofing and insulated siding nails. Called Alumi-Nails, they eliminate need for countersinking and puttying on the job and will not rust or stain. All are cleaned by an etching process which microscopically roughens the nail surface for additional holding power. Panel shows stains from ordinary nails at right and stain-free siding with aluminum nails at left. Made by **American Nail & Metal Products Co.**, 1230M-18 W. Lisbon Ave., Milwaukee 16, Wis.

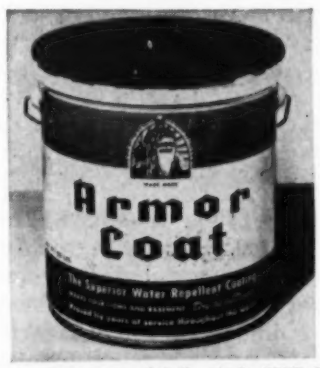
▲ For more details circle NED-862 C3 on enclosed inquiry slip ▲

FUEL OIL ADDITIVE prevents screen and filter clogging

By inhibiting the formation of sludge and sediment, preventing deposition of sludge already present and sharply reducing rusting, Santolene H fuel addition agent prevents clogging of screens and filters of industrial oil burners. It is reported to have similar beneficial results as a diesel fuel additive. This non-metallic-base compound has practically no effect on carbon residue of fuel and does not contribute to the formation or stabilization of oil-water emulsions and the attendant oil haze. It is used in ratios of 3 gal to each 42,000 gal of oil. For rust protection of handling and storage equipment, use of 1½ gal in above oil volume is adequate. Made by **Monsanto Chemical Co.**, P. O. Box 472, St. Louis 1, Mo.

▲ For more details circle NED-863 C3 on enclosed inquiry slip ▲

WATERPROOF PAINT for above or below grade use



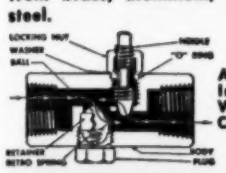
Penetration of water in masonry construction, whether it be above or below grade, is prevented by Armorcoat waterproof paint. It withstands severe water pressures and retains its qualities under all climatic conditions. Made by **Armor Laboratories, Inc.**, Dept. 263, Glendale, Calif.

▲ For more details circle NED-864 C3 on enclosed inquiry slip ▲

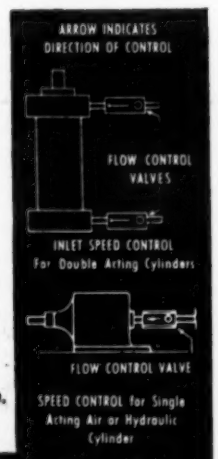
Get Easier, More Accurate Cylinder Speed Control

with *Pneu-Trol* VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Improved "O" Gland structure seals and locks the fine needle setting when speed adjustments are made. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Pneu-Trol Flow Valves are available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel.



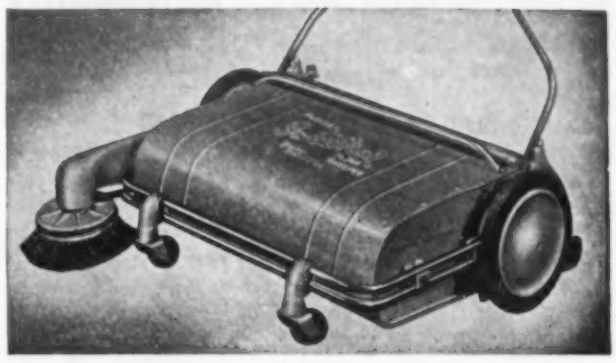
Attractive Prices — Immediate Delivery Write for Illustrated Circular and Price List.



Pneu-Trol Devices, Inc.
1432 N. Keating Ave., Chicago 51, Ill.

▲ For more details circle NED-865 C3 on enclosed inquiry slip ▲

MAN SAVER



Sweeps up to 400% faster than costly pushbroom cleaning . . . saves money . . . saves manpower

A Parker Floor Sweeper saved $2100 a year for a food manufacturer — $520 a year for a lumber yard—75% of all sweeping costs for a building material manufacturer. *You, too, can save.*

Sweeps all type floors. Collects and sweeps in one operation. Easy to empty. A money-saver for any plant from small garage to large factory or warehouse.

Now available — information file containing time studies, case histories, and full details. *Write, wire, or telephone today.*

FACT FILE AVAILABLE
PARKER INDUSTRIAL FLOOR SWEEPER
PARKER SWEEPER CO., 63 Bechtle Ave., Springfield, Ohio

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REQUIRE PRECISE TEMPERATURE CONTROL?

Thermo Electronic
TEMPERATURE CONTROLLERS
(THERMOCOUPLE OR RESISTANCE BULB)

. . . provide null balance measuring accuracy with electronic sensitivity and speed at LOW COST . . . Processes operating between −100°F and 3000°F can be controlled accurately and automatically. The two-position control action is continuous and high speed, only one part—the control relay—moves when process calls for change of heat. Signal lights indicate temperature conditions. . . . Simple in design, ruggedly constructed, Thermo Electronic Controllers are easy to install, economical to operate, and require little maintenance . . .

LET US RECOMMEND THE CONTROLLER BEST SUITED FOR YOUR JOB OR WRITE FOR
Thermocouple Pyrometer Controller Bulletin 50 T
Resistance Bulb Controller Bulletin 55 T

Thermo Electric Co., Inc.
FAIR LAWN NEW JERSEY

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ONE OF AMERICA'S BROADEST LINES OF HORIZONTAL ALL-PURPOSE PUMPS

ILLUSTRATED 2, 3, 5 HP ELECTRIC DRIVE

PEERLESS TYPE PE & TYPE PB PUMPS

PEERLESS PUMPS

Close-coupled & flexible-coupled pumps ¼ to 150 hp—up to 5500 gpm

Write today for Peerless Bulletin No. B-2300. Illustrated with views of all pumps in the Peerless Fluidyne line. Includes sectional drawings, elevations, dimensional data and head-capacity characteristics. You can buy and apply right from this bulletin.

OTHER PEERLESS TYPES:
Fractional hp close-coupled
Integral hp flexible-coupled or V-belt drive

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

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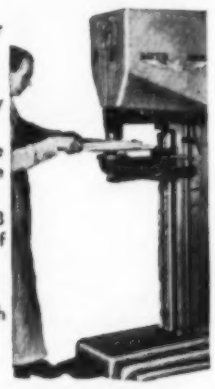
PUT YOUR SKID COSTS ON THE SKIDS . . . WITH AUTO-NAILER*

AUTO-NAILER MAKES SKIDS FASTER . . . STRONGER



3-nails-a-second speed saves up to 75% in labor costs over hand nailing.
More rigid skids—less racking.
No jigs necessary — Auto-Nailer will nail any pattern.
Auto-Nailer is flexible—changing from one size (or design) to another requires no machine adjustment.
Auto-Nailer makes and drives its own nails—3 a second—can be clinched or bradded, if desired.
Auto nails will not back out.
Auto nails reduce nail cost. Use only length that's needed. None bent; none dropped.

Write for free catalog

*Trademark Registered

AUTO-NAILER CO.,
265 MARIETTA ST., ATLANTA, GEORGIA

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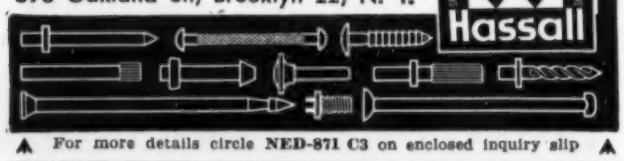
WRITE FOR FREE Hassall decimal-equivalent wall chart

In such popular demand (we've given away 50,000) — we've made it better. The new chart is far easier to read! In three colors to automatically signal decimal-equivalents of fractions. The special products which frame the chart are a constant reminder of a good source for cold-headed parts.

ESTABLISHED 1850

JOHN HASSALL, INC.
398 Oakland St., Brooklyn 22, N. Y.



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CHAIN ASSEMBLY ...CHAIN REPAIR can be easy!

THIS BOOK SHOWS YOU HOW

With the improved Baldwin "BA" Assembly Riveted Roller Chain, coupling, uncoupling and repair of chain in the field and in the shop are easier, faster, far less costly. It's no longer necessary to "cut" chain. Special single pin couplers eliminate this problem for good without sacrificing the strength of riveted roller chain. Our new "BA" Bulletin contains complete details... shows you just how it's done. Use the coupon to send for it today.

BALDWIN-REX® ROLLER CHAINS

Chain Belt Company
364 Plainfield St., Springfield 2, Mass.

Please send me Bulletin 52-2.
Name.....
Company.....*Dept*.....
Address.....
City.....*State*.....

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CANCER STRIKES 1 in 5
STRIKE BACK
GIVE
American Cancer Society

New Literature & Catalogs

Spiral Conveyors

Jeffrey Mfg. Co.—48-page illustrated catalog 851 contains design, application and performance data on line of spiral or screw type conveyors and accessories. Six principal types described include sectional flight, helicoid, mixer, cut flight, ribbon and cast iron.

▲ For more details circle NED-873 C3 on enclosed inquiry slip ▲

High Vacuum Apparatus

Central Scientific Co.—Recently revised to include the latest type vacuum connectors, couplings and other accessories, 56-page illustrated catalog 10E is entitled "Cenco High Vacuum Apparatus." Tables and charts are used to amplify information on high vacuum systems. Described are vacuum pumps, accessories, low pressure techniques and vacuum system planning.

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Drill Presses

South Bend Lathe Works—12-page illustrated catalog 5206 lists specifications, shows features and covers available accessories for line of drill presses which includes 14-in.. precision bench, floor and multiple spindle models as well as economy models for general drilling duty.

▲ For more details circle NED-875 C3 on enclosed inquiry slip ▲

Air Blast Marking

Jas. H. Matthews & Co.—Cover of 4-page illustrated bulletin contains etched thumbprint to show how effectively the Airgrit blast type marking machine can be used to mark even the most delicate materials. This simple machine is capable of marking glass, ceramics, metal and even tungsten carbides with easily produced mask or stencil.

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Coal Conveyor Belts

B. F. Goodrich Co.—Specifically designed for coal-handling use, Caricoal cord type conveyor belts can be used on 85 per cent of the coal conveyors. Also covered in 20-page illustrated bulletin "Coal Mining Conveyor Belts" are fire-resisting rubber and other types of belts. Guides for belt selecting include formulas, tension table, speed and motor requirements, belt speeds, rates of loading and maintenance techniques.

▲ For more details circle NED-877 C3 on enclosed inquiry slip ▲

Solenoid Valves

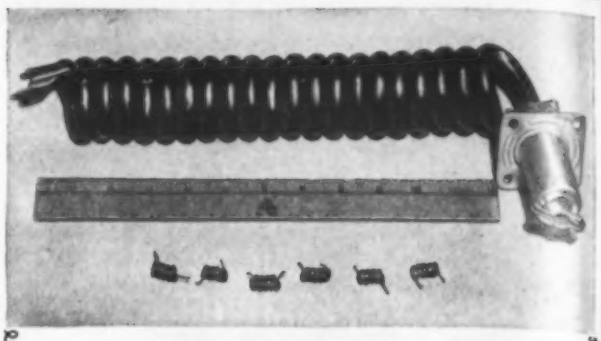
Valcor Engineering Corp.—"The Valcor Solenoid Valve with the Floating Shear Seal" is 12-page illustrated bulletin on control which was originally developed for use on fuel lines of the Republic Thunderjet. It is adaptable for wide range of fluid control applications.

▲ For more details circle NED-878 C3 on enclosed inquiry slip ▲

Continuous Gages & Controls

Niles-Bement-Pond Co., Pratt & Whitney Div.—Gaging to close limits is accomplished without stopping or slowing down the manufacturing process with continuous gages and control units described and illustrated in 28-page bulletin 553. General information, technical data and specifications for magnetic, beta ray and electrolimit gages and various process control units are included.

▲ For more details circle NED-879 C3 on enclosed inquiry slip ▲



THE LARGEST AND SMALLEST KOILED KORDS*

HOW WOULD YOU USE THEM?

The largest Koiled Kord made is for use with trailers and has an over-all diameter of 2½". The smallest is only ⅝" long, with an over-all diameter of ¼". It has a single conductor and was made for use in a car heater switch. Between the smallest and the largest, we make innumerable sizes of Koiled Kords for innumerable uses in communications, home and industry. Koiled Kords extend to approximately five times their length and always retract to their original shape and size. *trade mark

HOW WOULD YOU USE KOILED KORDS?

Write on your business stationery for a sample of Koiled Kords.

Koiled Kords INCORPORATED
BOX "K" HAMDEN, CONN.
IN CANADA: R. D. FLECK & CO., LTD., OSHAWA, ONTARIO

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"HARD-TO-MAKE" Precision Metal Stampings are no problem to us!

Many years' experience in the metal fabrication field have given us a "know how" *you* can use. Combined with ingenuity and resourcefulness, this ability has helped us solve many of the "impossible" problems in the fabricating and stamping of metals . . . and in such varied fields as Electronic Equipment, Business Machines, Automotive Products, Home Appliances, and many others we'd like you to see.

Our job is doing the usual *or* the unusual in the fabricating or stamping of metals. Send us your blue prints for our quotation.

CARROLL PRESSED METAL CO.
138 DEWEY ST., WORCESTER, MASS.
OVER 48 YEARS OF PRECISION METAL FABRICATION

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Making Better STAMPED Gears Is a Highly Developed Winzeler Specialty

Now, you can get *extreme accuracy* in the *Stamped* Gears you need. Better men and methods and machinery, developed through years of specialization, have resulted in a degree of economy and precision unequalled in the history of *Stamped Gear* making! Eliminate assembly headaches . . get smoother, quieter performance with WINZELER Stamped Gears.

WRITE FOR FREE *4-page catalog-folder describing our facilities and the various Stamped Gears, Tools and Assemblies we make. Valuable gear data and tables are included. Or, get ideas, samples and low cost estimates. No obligation.*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

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(FLINTY HARDNESS)

HARD RESURFACER FOR CONCRETE

- "Roll a truck a foot on FLINTZ ▪▪▪ and it will coast another!"
- The ONLY PREPARATION for placing Flintz is CLEANING THE FLOOR ▪▪▪ without cutting.
- Placing Flintz is LIKE SPREADING MOIST SAND.

Some concerns have used thousands of bbls. of our resurfacers—just finished placing a 350 bbl. order for a world-wide concern—and would be de-lighted to furnish materials or install for you at your option.

"KEEP 'EM ROLLING"

Write today for FLINTZ booklet, "Keep 'Em Rolling" for full details, or address inquiries to:

DURA-TRED CO.
353 N. CENTRAL PARK BLVD. • CHICAGO 24, ILLINOIS

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SOUTH BEND 2-H TURRET LATHE

for Fast, Precision Machining

Its speed, accuracy and ease of handling enables the 2-H Precision Turret Lathe to lower production costs of precision parts. It is especially suited for second operations. Write for Catalog 67-F.

1" Collet Capacity . . . 1-3/8" Spindle Bore . . . 16-1/4" Swing . . . 28-1/4" Turret to Spindle . . . 12 Spindle Speeds . . . 48 Thread Cutting and Carriage Power Longitudinal and Cross-feeds . . . 96 Turret Power Feeds

MODEL 2-H PRECISION TURRET LATHE—equipped with two-speed (2 h.p.-1 h.p.—1800-900 r.p.m.), 3-phase, A.C. motor; handlever collet attachment; and coolant pump assembly.

SOUTH BEND LATHE WORKS
Building Better Tools Since 1906 • South Bend 22, Indiana

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JOHN CRANE **TEFLON*** Bellows Connector

...Solves Difficult Piping Problems...

- *Corrosion and Heat Resistant*
- *Electrically Non-Conductive*
- *Flexible Even At Minus 94°F.*
- *As Strong at 482°F. As At 70°F.*
- *Dampens Vibrations*
- *Withstands Repeated Flexings*
- *Recommended for Low Pressures and High Vacuums*

Fabricated of chemically inert TEFLON, this new John Crane Bellows Connector is the ideal solution to corrosive, high temperature and electrolytic piping problems throughout the industry. Available in a wide variety of forms to fit *your* needs.

Write for Informative TEFLON *Catalog...*

*DuPont Trademark for tetrafluorethylene resin.

CRANE PACKING COMPANY
1811 CUYLER AVE. • CHICAGO 13, ILLINOIS
Offices in All Principal Cities in United States and Canada

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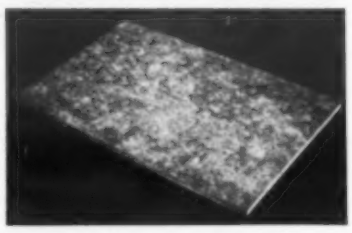
New Processes & Materials

GLASS FIBER INSULATION BOARD offered with smooth sanded surface



Low exposed ceilings where appearance is a factor can be formed with Fiberglas PF preformed insulation board, made with a smooth sanded surface which can be painted or left unfinished. It also provides an integral part of poured-in-place gypsum and lightweight concrete roof decks. Sanded board insulation is light, fireproof and has low heat transmission and good noise absorption. Standard size is 32 x 48 in. by 1¼ in. thick. Made by **Owens-Corning Fiberglas Corp.**, Nicholas Bldg., Toledo 1, O.

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SILVER BRAZING FLUX for ferrous and nonferrous metals

All ferrous and nonferrous metals can make use of improved "1200" silver brazing flux compound if application is at temperatures common to silver brazing. Consisting of a mixture of fluoride and borate salts, flux prevents oxidation of the surface during heating, brazing and cooling; cleans and floats off dirt or oxides; and reduces surface tension of the molten alloy, causing it to flow freely. Offered in paste form in ½, 1, 5, 30 and 65-lb containers, it is removed after brazing by washing with water. Made by **American Platinum Works**, 231 N.J.R.R. Ave., Newark 5, N. J.

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BUFFING, POLISHING COMPOSITION abrasive particles are uniform size

A consistently-sized abrasive is featured by Acme Greaseless buffing and polishing composition. Product adheres strongly to wheel face to form heavy, fast drying "head" which does not fly off and remains firm even in warm weather. It can be used on brushes and buffing wheels and for hand buffing. Results in cutting, polishing, deburring or satin finishing all metals are excellent. Composition is available in aluminum tubes and in foil-lined cardboard cartons. Made by **Hanson-Van Winkle-Munning Co.**, W. Church St., Matawan, N. J.

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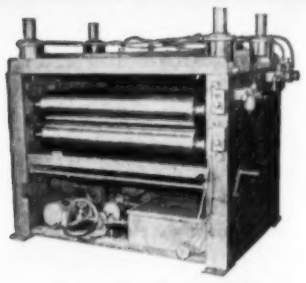
UNION AUTOMATIC COMPOUND SPREADERS

*SAVE *8 WAYS*



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

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CRYSTAL TISSUES-for an unlimited list of industrial and specialty applications.

- Non-Tarnish Tissues
- Alkali-Proof Tissues
- Foil-Mounting Tissues (up to 18 Lb. basis)
- Impregnating Tissues
- Laminating Tissues
- Oiled Tissues
- Spinning Tissues
- 1/32" Waxed Tissue Excelsior
- Twisting & Waxing Tissues
- Chemically-Impregnated Tissues
- Rubber Bonded Tissues
- Colored Tissues

Need tissues that "breathe"—that will not tarnish, cause rust or corrosion—that will seal with a simple twist—with strength in one direction only—that protect *and* decorate? You name the requirements. Chances are there's a Crystal Tissue that will meet or surpass them. Crystal's full line of tissues—both Fourdrinier and Cylinder—includes a wide range of grades and weights especially developed for industrial and specialty applications. Your Crystal supplier will be glad to discuss your own particular problems. Write for his name and address.

Crystal
THE CRYSTAL TISSUE COMPANY
MIDDLETOWN, OHIO

WRAPPING TISSUES · SPECIALTY TISSUES · INDUSTRIAL TISSUES · WAXED PAPERS

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WITH THESE NEW Westinghouse Cylinders

YOU GET

Smaller size
Fewer parts
Adjustable cushioning

THE complete line of Westinghouse pneumatic cylinders has been redesigned. They have been streamlined and made real compact. Outside dimensions are only slightly larger than the air column inside the cylinder, and weight has been reduced.

Maintenance is low. There are fewer parts to wear, and *all* parts are made good and strong to assure long life in hard service. A wrench grip on the push rod makes servicing easy and adds to the life of the rod.

You can get these cylinders with or without adjustable cushioning in either or both ends for the 3" and larger diameters. Cushioning is adjusted with a screw-type needle valve.

For applications where corrosion is a problem, cylinders are available with stainless steel push rods and brass bodies. The units can be foot-mounted, flange-mounted, or pivot-mounted. Diameters range from 1½" to 10".

Write for complete information.

Westinghouse Air Brake COMPANY
INDUSTRIAL PRODUCTS DIVISION WILMERDING, PENNA.
Factory Branch: Emeryville, Calif.
In Canada: Canadian Westinghouse Co., Ltd., Hamilton, Ontario

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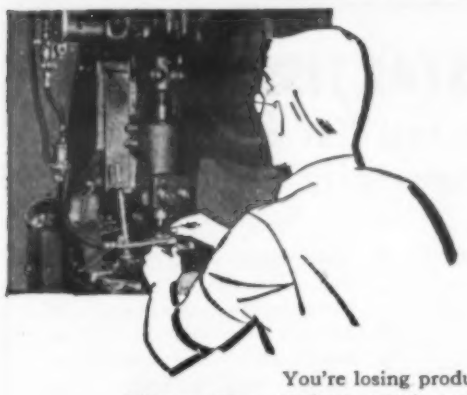

Step Up Production and Safety, Too with Schrader Air Ejection

You're losing production when operators must manually unload work from your presses. Extra work takes time, and adds hazards to the job.

A Schrader Air Ejection Set will give your presses—and operators—a new lease on life. Fully automatic, these sets deliver enough air to eject the part, but no more. They are actuated by cams or trippers, and are delivered to you ready to install.

Various sets are available to handle any ejection problem.

Get full details on Schrader Ejection Sets. Write today for the Schrader catalog.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated
457 Vanderbilt Ave. E-39, Brooklyn 38, N. Y.

For more details circle NED-892 C3 on enclosed inquiry slip

The Improved Hydraulic

PULLEY PULLER

For Removing Pulleys Wheels, Gears, Couplings Sheaves, etc.

One man can do it in minutes—even if objects are stuck fast. No crowbars, sledges or blowtorches. No damage to equipment. Puller is adjustable—easy to move—rugged. Hundreds being used in industry.

- 5-ton size on wheels $92.50
- 20-ton size on wheels $290.00
- 50-ton size as shown $655.00

(F.O.B. Factory)

Write for complete information — Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

For more details circle NED-893 C3 on enclosed inquiry slip

"This machine doubled our output!"

Folding Chair Manufacturer

Bostitch Foot-operated Stapler

A high arm stapler that adapts readily to a wide variety of stapling jobs. Shown here fastening plastic upholstery to chair seat. Also used for carding, assembling wooden toys, fastening wooden drawers, sealing packages of parts. Staples can be formed into a number of shapes. Low model available for seated operator. Easily motorized. Write for complete information on foot and motor operated stapling machines. Bostitch, 683 Mechanic Street, Westerly, R. I.

BOSTITCH®

fastens it better, AND FASTER with wire

For more details circle NED-894 C3 on enclosed inquiry slip

New Literature & Catalogs

Level Control

Robertshaw-Fulton Controls Co., Fielden Instrument Div.—The Tektor electronic level control which provides accurate, dependable, low cost means for control of liquids, granular materials and bulky solids is described in 8-page illustrated bulletin F-101. Device operates on 115-v 60-cycle ac and is adaptable for remote control.

For more details circle NED-895 C3 on enclosed inquiry slip

Rust Prevention

Rust-Oleum Corp.—16 pages of practical data on finishing materials that stop and prevent rust are contained in illustrated catalog 252. Included are 73 color chips of Rust-Oleum products. Surface preparation and application procedures are discussed.

For more details circle NED-896 C3 on enclosed inquiry slip

Scales of All Types

Detecto Scales, Inc.—"Scales for Industry" could well be the title of comprehensive illustrated catalog 752 which describes types and sizes for practically every industrial and commercial weighing need. Types covered include platform, hopper, recording, printing, counting and other models.

For more details circle NED-897 C3 on enclosed inquiry slip

Work Gloves

C. Walker Jones Co.—"Work Gloves" is title of 12-page catalog that reports construction features of Jomac work gloves that account for their life which frequently exceeds that of ordinary gloves by 700 per cent. Designed-for-the-job gloves described include heat and flame resistant types, Glov-Safers and special hand pads and sleeves.

For more details circle NED-898 C3 on enclosed inquiry slip

Mist & Entrainment Removers

Otto H. York Co.—Improvement in performance of liquid-vapor processing equipment is accomplished through use of Yorkmesh Demisters according to 12-page illustrated bulletin. Easily installed on existing or new equipment, these units eliminate mist and separate entrainment from vapors of all types.

For more details circle NED-899 C3 on enclosed inquiry slip

Casters & Wheels

Buffalo Caster & Wheel Corp.—16-page illustrated catalog BC-53 contains selection and application data on complete line of industrial casters and wheels. Rubber, composition and semipneumatic tire types are available in wide range of sizes and load carrying capacities.

For more details circle NED-900 C3 on enclosed inquiry slip

Instrument, Timing & Small Motors

Gleason-Avery, Inc.—Specifications and application information on line of synchronous and nonsynchonous instrument motors, gear reduction motors and temperature controls are contained in 10-page illustrated bulletin.

For more details circle NED-901 C3 on enclosed inquiry slip

Roof Insulation

Owens-Corning Fiberglas Corp.—What appears to be a standard 8½ x 11-in. bulletin actually opens up to 33 x 25-in. sheet containing more than 40 pictures of installations of Fiberglas roof insulation in all types of plants. Included are data on thermal conductance and application of this material which will not rot, decay, shrink, swell nor absorb moisture.

For more details circle NED-902 C3 on enclosed inquiry slip

Fiber Products

Spaulding Fibre Co.—36-page illustrated spiral-bound catalog "Spaulding Products for Industry" lists many applications of fiber products by industries. Much technical data are given on vulcanized fiber, Armite fish paper insulation, Spauldite laminated phenolic plastic, Spauldo motor insulation, fiber board, T board for transformers and material handling equipment. General physical properties and specific uses are given.

For more details circle NED-903 C3 on enclosed inquiry slip

Drilling Machines & Boring Mills

Cincinnati Gilbert Machine Tool Co.—Radial drilling machines, table and floor type boring mills and accessories are described, illustrated and their main product features outlined in 8-page catalog 1152. Also included are condensed specifications.

For more details circle NED-904 C3 on enclosed inquiry slip

Help Keep Soabar Ticket and Label Marking Machines "Ticking"

The Soabar Thermaply illustrated, manufactured by Soabar Company, Philadelphia, Pennsylvania, is the first marking machine in which heat is successfully used for attaching labels.

To keep the drive motors in the Thermaply and other machines operating dependably and safeguard them against failures through motor burnouts, the Soabar Company specifies and uses motors with built-in Klixon Protectors.

Mr. David Tamaccio, Chief Engineer at Soabar, has this to say about Klixon Protectors — *"The motor protection afforded by Klixon inherent overheat protectors has been an asset to the maintenance and good operation of Soabar Ticket and Label Marking and Attaching Machines."*

Keep motors in your equipment dependable by specifying and using Klixon protected motors.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1903 FOREST ST., ATTLEBORO, MASS.

KLIXON

For more details circle NED-905 C3 on enclosed inquiry slip

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or *fine* lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master
FELT-TIP MARKER

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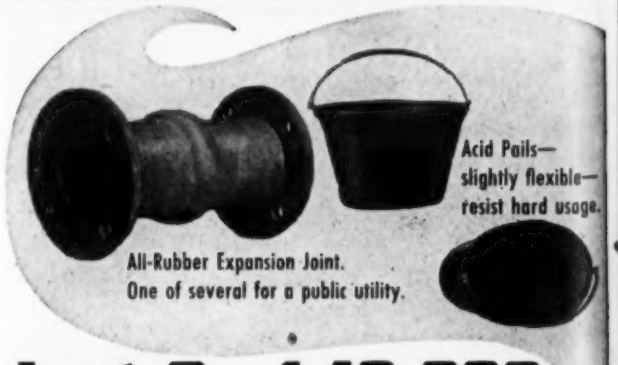


Just 2 of 10,000...

Yes—ten thousand applications of La Favorite Rubber Engineering know-how in a year. This "know-how" is something a customer cannot feel or see, but which, is nevertheless, an ingredient in every La Favorite product—time and use have demonstrated its value.

With a backlog of more than half a century of experience, and the third generation of rubber experts now actively participating, you may be sure any rubber use problem of yours, simple or complex, submitted to us will receive the benefit of these outstanding advantages.

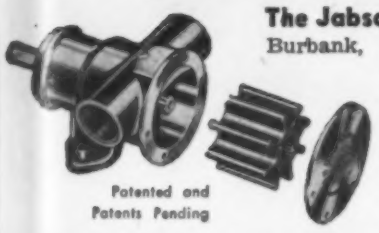
Use La Favorite's rubber engineering know-how to your advantage. Send for report #363—send blueprints for estimates on your work.

2119

LA FAVORITE RUBBER MFG. CO.
273 Wagaraw Road • Hawthorne, N. J.
RUBBER LININGS • RUBBER COVERING • RUBBER ENGINEERING

For more details circle NED-907 C3 on enclosed inquiry slip

HIGH CAPACITY SELF-PRIMING PUMPS



The Jabsco Pump Company, Burbank, California, offer a complete line of self-priming neoprene impeller pumps which will deliver more liquid for their weight and size than any other type of pumping equipment. These compact, self-priming pumps are available in bronze, stainless steel, and cast iron in sizes from ¼" to 1½", with capacities from ½ GPM to 55 GPM. Jabsco's advantages are obtained through simplicity. There is only one moving part, a tough, long-lived, oil and wear resistant, neoprene impeller which creates a near perfect vacuum for instant self-priming at suction lifts approaching 20 feet. They are self-lubricated by the fluid that they pump and are very quiet in operation. They can handle sand, chips, and other foreign matter. Jabscos are reversible and can be mounted in any position and operate in either direction with equal efficiency to permit cleaner, safer installations. Jabscos are economical. The neoprene impeller, which in most cases will outlast metal gears and rotors, is inexpensive and can be replaced easily in a very few minutes. The Model 777 1" bronze pump illustrated is equipped with double row ball bearings sealed and lubricated for life. With this design, the impeller can be removed and replaced without disconnecting the pump from the drive or from the piping system. Manufacturer — Jabsco Pump Company, 2031 North Lincoln Street, Burbank, California. *(Advt.)*

▲ For more details circle **NED-908 C3** on enclosed inquiry slip ▲

use COFFING Quik-Lifts

for tough-spot dependability

Pick out the tough spots on your production line . . . key spots where a breakdown means a costly shutdown. Then find out how the Coffing Quik-Lift's dependability really pays off. This hoist is a full-fledged production unit, built to stand up under hard assembly-line use. Its "tough spot" performance will soon repay its cost many times over in down time saved. So do as many others have done. Start the Quik-Lift on a hoist assignment where others have failed — then standardize on Coffing after it has proved its value the hard way.

For more information on Quik-Lift Electric Hoists, write for Bulletin X3E.

SOLD BY DISTRIBUTORS EVERYWHERE

Hoist-Alls • Safety-Pull Ratchet Lever Hoists • Mighty-Midget Pullers • Spur-Gear Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys.

COFFING HOIST COMPANY
DANVILLE, ILLINOIS

▲ For more details circle **NED-909 C3** on enclosed inquiry slip ▲

WRITE For BULLETIN 33-D

Resonant Reed Design Simplifies Transmission of a Number of Control Signals Over a Single Circuit

Each carbon-steel or alloy reed is tuned to vibrate to a signal frequency within a narrow range. Several Frahm® Resonant Reed Relays may be operated simultaneously on a single control circuit by employing an equal number of source generators designed so that no operating frequencies overlap. In the 200-500 cycle range 16 channels can be used on one circuit without interference. Frahm Relays may be used with all types of communication circuits including radio and carrier systems as well as wire circuits. Correspondence invited. B-905-R

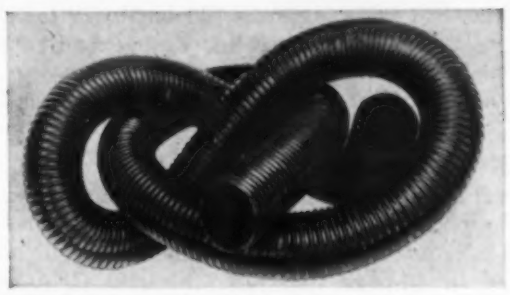
JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle **NED-910 C3** on enclosed inquiry slip ▲

New Processes & Materials

LIGHTWEIGHT FLEXIBLE HOSE
handles air, gases or bulk materials

Offered in wide range of sizes, three improved types of Flexaust spiral-wire reinforced flexible hoses have double the resistance to flexing fatigue, increased tensile strength and improved resistance to abrasion wear. Designated types CWL, CWC and CWY, they are lighter in weight than the types they replaced. Construction is reported to extend the many uses of this hose for handling air, gases, or materials by pressure, suction or gravity flow. Made by **American Ventilating Hose Co.,** Dept. NA, 100 Park Ave., New York 17, N. Y.



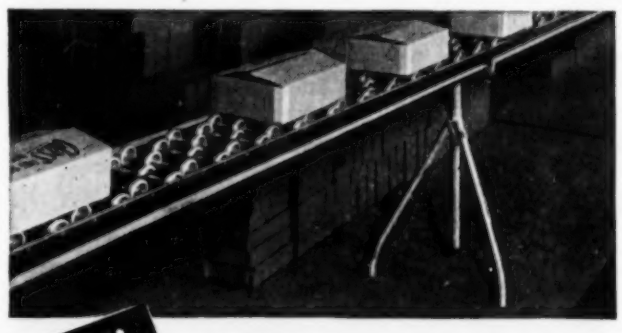
▲ For more details circle **NED-911 C3** on enclosed inquiry slip ▲

REINFORCING MAT
two types available, both made of chopped strand glass fiber

Almost pure white and highly uniform in weight and pattern, Uniformat is reinforcing mat of chopped strands of fiber glass. Designed for plastic reinforcement, the mat can be used with plastics of any color, including light shades, without staining or discoloring at points where it is near the surface. Ferro GP mat, one of two types, is for matched metal die molding and will resist washing and tearing pressures exerted by molding action. It can also be used in periodic or continuous dip impregnation systems.

Parts requiring rapid and complete wetting of the glass fiber strands under atmospheric conditions can use type HSB mat, made for atmospheric cure work involving bag molding, tailoring or hand lay-up methods. Extremely low pressure and bake cure parts can also be reinforced with the HSB type mat. Mat width is 50 in. unless otherwise specified. Made by **Ferro Corp.,** Fiber Glass Div., Dept. A, 200 Woodycrest Ave., Nashville, Tenn.

▲ For more details circle **NED-912 C3** on enclosed inquiry slip ▲



NEW

FARQUHAR Roll-Free GRAVITY CONVEYORS
for faster materials-handling!

SPEED your production and cut materials-handling costs with trouble-free, economical Farquhar ROLL-FREE gravity conveyors. ROLL-FREE conveyors are scientifically designed, not only to move boxes, crates and cartons smoothly and easily, but to perform year after year with a minimum of maintenance. This is no idle claim—our engineers will be glad to show you why, at no obligation. Write to the address shown below, telling us what you want to move.

OLIVER *Farquhar* **CONVEYORS**

FREE! "Owners Report"— a booklet of case histories describing money-saving Farquhar conveyor installations. Write: THE OLIVER CORPORATION. A. B. Farquhar Division, Dept. M-04, York, Pa.

POWER-BELT & GRAVITY CONVEYORS

▲ For more details circle **NED-913 C3** on enclosed inquiry slip ▲

100% CONCENTRICITY AND HARDNESS TESTS ASSURE ACCURACY— SUPERFINISH BORES ASSURE LONG LIFE OF UNIVERSAL DRILL BUSHINGS

153-A

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

▲ For more details circle **NED-914 C3** on enclosed inquiry slip ▲

COME *Clean with a* Clarke

Thirty-five years of Clarke know-how are built into Clarke floor maintenance machines to do your cleaning easier, faster and better. A Clarke does the job month after month without repair expense because it's job-designed and built for years of rugged service. That's why you should investigate Clarke **before you consider any other floor maintenance equipment.**

WD-23 WET-DRY VACUUM

No cleaning job—wet or dry — is too big for the WD-23 Wet-Dry Vacuum. Heavy porcelainized tank, inside and out, resists rust. Handy dump valve eliminates heavy lifting. Handy attachments available. Model WD-15 for smaller area jobs.

P-17 FLOOR MAINTAINER
(With Water Tank Attachment)

Scrubbing a floor spotlessly clean is no chore for this Clarke P-17 floor maintainer (shown with water tank attachment, available at slight extra cost). Works easily on any type floor.

Clarke SANDING MACHINE COMPANY
223 East Clay Avenue, Muskegon, Mich.
Authorized Sales and Service in Principal Cities

SEND TODAY!

Send this coupon for full, colorful details on Clarke floor maintenance equipment that will save you working time — and money.

Clarke Sanding Machine Company
223 East Clay Avenue, Muskegon, Michigan

Please send me full details on Clarke equipment and the name of my nearest dealer.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE____

▲ For more details circle **NED-915 C3** on enclosed inquiry slip ▲

HOBBS
EST. 1883
TANGLE-PROOF
LOCK WASHERS

You can *depend* on Hobbs spring lock washers to meet all job requirements and government specifications. Available in high carbon steel, stainless steels, silicon and phosphor bronze, and all types of platings.

HOBBS COTTER PINS are available in steel, brass, stainless steel, and monel in extended prong (Loxit) and hammer-lock (HobLok) types. HobLok cotter pins lock themselves when hit with hammer!

Write now for Hobbs lock washer and cotter pin price lists!

HOBBS MANUFACTURING CO.
Fastener Division
EST. 1883
16 SALISBURY ST., WORCESTER 5, MASS.

For more details circle **NED-919 C3** on enclosed inquiry slip

You Just Can't File Away These Problems . . .

BLAST CLEANING

. . . of bridges, buildings, tanks, structural work

Pangborn Blast Cleaning Machine—Cleans tanks, bridges, structures quickly and economically. Ideal for maintenance and other jobs, such as removal of dirt, rust, etc. Six sizes, stationary or portable, $170 and up.

. . . of small castings, forgings, stampings, heat treated parts.

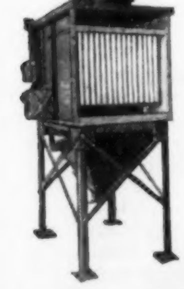
Pangborn Blast Cabinet—Saves time and money in cleaning small metal parts, removing rust, scale, grime, old paint, etc., in a few seconds. Perfect for producing clean, smooth surfaces on pieces 60" x 35" in size. Models from $319 and up.

PRECISION FINISHING

. . . of molds, dies, tools

Pangborn Hydro-Finish Cabinet—Removes scale and directional grinding lines . . . holds tolerances to .0001" and prepares surfaces for painting or plating. Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from .... $1410 and up.

CONTROLLING DUST



. . . at the source of origin

Pangborn Unit Dust Collector—Traps dust at the source. Reduces maintenance costs . . . keeps plant clean and improves community relations. Allows reclamation of valuable material. Models from .... $286 and up.

BUT YOU CAN MAIL THIS COUPON TO PANGBORN FOR HELP IN SOLVING THEM!

Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked. To be used for......
....
Name ....
Company ....
Address ....
City ....Zone....State..........

For more details circle **NED-920 C3** on enclosed inquiry slip

New Literature & Catalogs

Roller Bearing Pillow Blocks

Dodge Mfg. Co.—Developed jointly with the Timken Roller Bearing Co., Dodge-Timken All-Steel pillow blocks are covered in 8-page illustrated bulletin A-620. Available from stock, this line of heavy duty steel-housed tapered roller bearing pillow blocks includes bore sizes from $2\frac{15}{16}$ in. to 10 in. Radial load ratings are tabulated for various speeds and sizes.

For more details circle **NED-921 C3** on enclosed inquiry slip

Electric Heating Elements

General Electric Co.—Fourteen case histories detailing the application of Calrod electric heating elements as built-in units in industrial machines and equipment are cited in 16-page illustrated bulletin GEA-5866. Over 50 photos are used to show how original equipment manufacturers have made new or improved machines. Case histories are grouped under headings of heating surfaces, melting soft metals, radiant heat, heating liquids and heating process air.

For more details circle **NED-922 C3** on enclosed inquiry slip

Bucket Elevators

Jeffrey Mfg. Co.—Chain and belt bucket elevators for handling all types of bulk materials are described in 76-page illustrated catalog 850. Details of complete units and of components such as belting, chutes, buckets, boots, ladders, platforms and drives are presented. Also given are engineering data and formulas to aid in application.

For more details circle **NED-923 C3** on enclosed inquiry slip

Utility Blowers

Hartzell Propeller Fan Co. — 24-page illustrated catalog B-10 is complete reference manual on line of belt driven utility blowers in 9 to 30-in. sizes and in capacities up to 13,635 cfm, depending upon size and speed. Design features, capacities, performance data, dimensions and other information are included. Also described are direct-drive models as well as pressure blowers.

For more details circle **NED-924 C3** on enclosed inquiry slip

Contour Projectors

Eastman Kodak Co., Industrial Optical Div.—Advance methods of optical gaging which reduce production and toolroom costs are detailed in 12-page illustrated booklet F-68. Specifications and application features of contour projectors are given. Also illustrated are uses of special fixtures and charts to check close tolerances of large parts, complex shapes and blind holes and recesses.

For more details circle **NED-925 C3** on enclosed inquiry slip

Boiler Control

Continental Foundry & Machine Co., Copes-Vulcan Div.—Completely integrated system for controlling combustion, feed water, boiler steam temperature and boiler cleaning is offered in the Copes-Vulcan boiler control, described and graphically and photographically illustrated in 10-page bulletin 1007. Use can be on central station boilers or smaller units. With instrumentation by Taylor, it is adaptable to all generating capacities, load ranges, fuels and firing methods.

For more details circle **NED-926 C3** on enclosed inquiry slip

Helical Gear Drives—Their Advantages

Link-Belt Co.—Advantages, fields of application and correct selection of helical gear drives are discussed and illustrated in 16-page book 2451. Cross-sectional views show design details and construction features of both double and triple reduction types. Load classes for 170 types of machines are tabulated and specifications are presented.

For more details circle **NED-927 C3** on enclosed inquiry slip

Hydraulic Hot Plate Press

Plycor Co.—Construction and operation of hydraulic hot plate presses are explained in descriptive 16-page booklet 420-A. Design features are detailed and various models are shown. Presses are used for gluing of plywood and are built in frame and strain-rod types.

For more details circle **NED-928 C3** on enclosed inquiry slip

Easy-to-Use Threading Tool

Rivett Lathe & Grinder, Inc.—Independent of operator skill, the easy-to-use threading tool described in bulletin 110D produces a perfect thread. Successive operations of an indexing system presents each of its ten cutter teeth to the work to form the thread.

For more details circle **NED-929 C3** on enclosed inquiry slip

OSBORN

Why shop around? Just specify "OSBORN"

YOU KNOW OSBORN Brushes are good. To simplify buying and to assure getting unsurpassed quality, all you need to do is *specify* "OSBORN". No need for shopping around. No chance for questionable quality. You can buy OSBORN paint, maintenance and power brushes with confidence because their workmanship and materials are backed by 60 years of OSBORN service to Industry. Order them automatically from your INDUSTRIAL DISTRIBUTOR on the same order as other mill supplies. *The Osborn Manufacturing Company, Dept. Z-3, 5401 Hamilton Avenue, Cleveland 14, Ohio.*

Osborn Brushes

OSBORN POWER, MAINTENANCE AND PAINT BRUSHES AND FOUNDRY MOLDING MACHINES

For more details circle **NED-930 C3** on enclosed inquiry slip

VALET RACKS

LOCKERETTE
—Combines the best features of both lockers and coat racks

Improves health and morale —lowers absenteeism

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 ft; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

Write for Bulletin No. OL 8

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

For more details circle **NED-931 C3** on enclosed inquiry slip

THE 3XP TYPE RAYONIC® CATHODE RAY TUBE
By Waterman

The 3XP type RAYONIC CATHODE RAY TUBES have made possible more sensitive oscilloscopes with greater trace brilliance, without increasing present anode potentials. Waterman tube engineers pioneered a new approach to cathode ray tube design in developing this type tube. That research has paid off in a tube that provides a light output four times greater, and vertical sensitivity twice as great as comparable cathode ray tubes operating the similar anode potentials. All this has been accomplished without sacrificing low interelectrode capacities. These characteristics make the 3XP ideal for high frequency video work as well as low repetitive operation. Because of its unique shape and size, the 3XP lends itself readily to multi-tube oscilloscopy. The 3XP is available in P1, P2, P7, and P11 Phosphers.

WATERMAN PRODUCTS

OTHER WATERMAN RAYONIC TUBES INCLUDE:
3JP1 & 3JP7 JAN CR TUBES
3MP1, 2, 7, 11 CR TUBES
3SP1, 2, 7, 11 CR TUBES
SEND FOR COMPLETE DATA TODAY

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA. CABLE ADDRESS: POKETSCOPE

For more details circle **NED-932 C3** on enclosed inquiry slip

Automatically

ADJUSTS TO COIL SIZE!

Dixon Grabs lift coils from pallet to vertical position in one easy motion — also vertical position back to pallet. Handles coils from 1" to 48" wide. Seven standard models available. Export Dept.: 306 W. Washington Blvd. Chicago 6, Ill.

DIXON *Automatic Tool, Inc.*

2310 23rd Ave. • ROCKFORD, ILLINOIS

▲ For more details circle **NED-933 C3** on enclosed inquiry slip ▲

TRY THIS

Hapman

Let's assume you're a Conveyor-Project Engineer employed by Hapman —

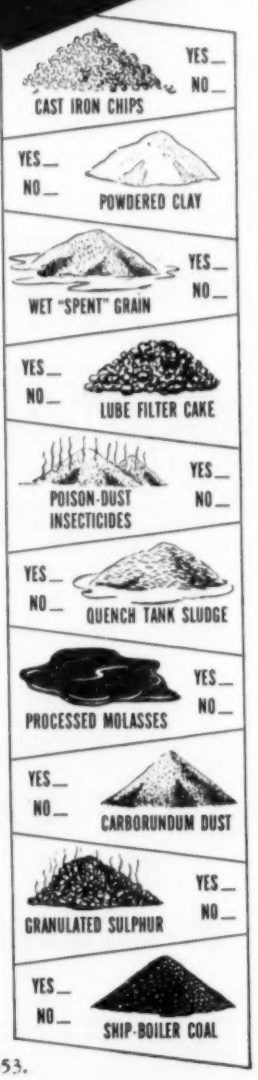
QUESTION 1—Which materials in panel would you advise can be efficiently handled by Hapman Tubular Sealed-pin Chain Conveyors?

QUESTION 2—To elevate a granulated chemical 29 ft. above floor, at 2,000 lbs. per hour, what motor would you specify?
1 H.P.____ 2 H.P.____
3 H.P.____ 5 H.P.____

QUESTION 3—A prospect asks, "What is the *outstanding* advantage of a Hapman Tubular Conveyor?" What's your reply?

ANSWERS: 1—All now successfully handled except sticky molasses. 2—One horsepower. 3—Hard to answer. In one case, ability to convey *wet* material is vital; in another the Hapman's air-tight seal keeps moisture or dust *out*—or fumes *in*. Ability to curve around obstacles may be essential. Your best answer: "They cut costs!"

NOW SEND YOUR QUESTIONS!



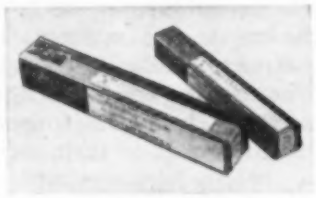
Write for details and Bulletin ND353.

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

▲ For more details circle **NED-934 C3** on enclosed inquiry slip ▲

New Processes & Materials

CUTTING ELECTRODE
chamfers, bevels, pierces, gouges



Most commercial metals can be cut, chamfered, beveled, pierced and gouged by the 5-in-1 cutting electrode which requires no gases. Said to perform faster at the same heat than similar electrodes, it throws only 2 per cent more splatter. It is available in all standard sizes from 3/32 to ¼-in. for use on steel, stainless steel, iron, cast iron, copper, copper alloys, nickel and nickel alloys with alternating or direct current. Made by **All-State Welding Alloys Co.,** 249 Ferrisden Ave., White Plains, N. Y.

▲ For more details circle **NED-935 C3** on enclosed inquiry slip ▲

HIGH TEMPERATURE LUBRICANT
gives high load-carrying protection

Light enough to be fogged easily in automatic lubricators, yet providing high load carrying protection, Hi-Temp 303 oil can be used at temperatures of 500° F and over. It combines molybdenum disulphide with a synthetic base and a low carbon content petroleum oil. Good lubricity, high resistance to heat breakdown and reduction of carbon build-up to a minimum on bearings exposed to elevated temperatures are characteristics. Oil will not separate in storage, making it suitable for automatic spray or mist dispensing equipment. Made by **E. F. Houghton & Co.,** 305 W. Lehigh Ave., Philadelphia 33, Pa.

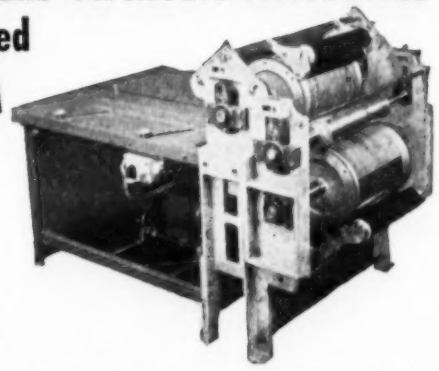
▲ For more details circle **NED-936 C3** on enclosed inquiry slip ▲

SELF-EMULSIFYING SOLVENT
makes possible gasoline tank welding

Gunk, a self-emulsifying and self-scouring solvent, has an affinity for, and combines with, all traces of gasoline or volatile fuel. When cleaned with this compound, gasoline tanks can be safely welded. Procedure is to add as much Gunk as there are traces of liquid gasoline remaining in the tank, then fill slowly with water to displace the gas fumes, followed by draining the oil-in-water emulsion and rinsing. Developed by **Curran Corp.,** 110 S. Canal St., Lawrence, Mass.

▲ For more details circle **NED-937 C3** on enclosed inquiry slip ▲

PRINT YOUR OWN SHIPPING CONTAINERS OR MULTI-WALL BAGS as You need THEM



Industrial's Auto Printer

is suitable for imprinting information, addresses, marking, or whatever you may require on your containers or multi-wall bags. It is capable of printing as many as 2000 units per hour. Eliminates hand stenciling.

This is just one of Industrial's coding and marking machines designed specifically for your needs to assure more efficient marking and movement of materials on production lines. Marking equipment is also available for conveyor line use.

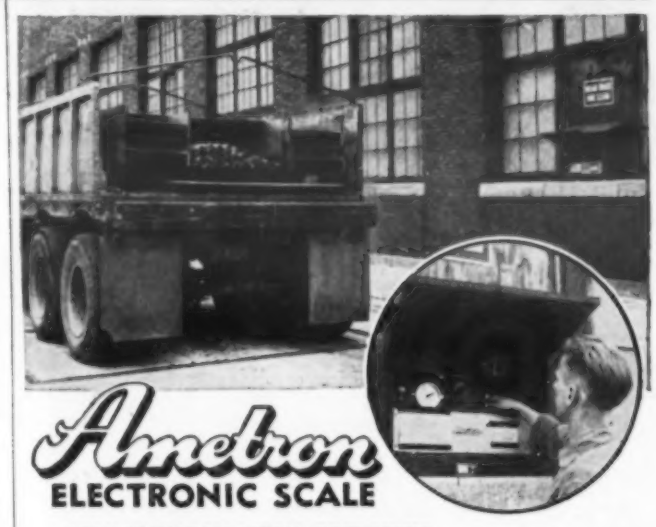
Let us help you—send us your marking problem; we will do the rest.

Machines available for munitions marking.

Write for catalog today.

INDUSTRIAL MARKING EQUIPMENT CO.
Designers and Builders of Marking Equipment for Industry
Dept. NED, 454 Baltic Street, Brooklyn 17, N. Y.

▲ For more details circle **NED-938 C3** on enclosed inquiry slip ▲



Ametron
ELECTRONIC SCALE

REDUCE INSTALLATION, OPERATING AND MAINTENANCE COSTS!

This typical electronic scale installation shows how industry is switching to electronics for heavy weighing. Sturdy, compact load cells—with huge weight capacities—do the job! The Ametron Recorder (which can be remotely located) automatically prints the exact weight on tape, tickets or ledger cards.

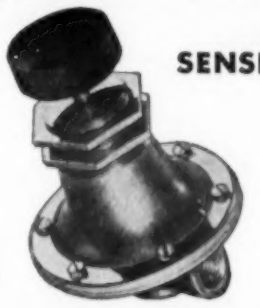
Driver slips load ticket into recorder to print exact weight.

Write for free Ametron Brochure T-1

Branches in Pittsburgh and Allentown, Pa. and Birmingham, Ala.

THE STANDARD OF ACCURACY SINCE 1888
STREETER-AMET COMPANY
4101 RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

▲ For more details circle **NED-939 C3** on enclosed inquiry slip ▲



SENSITIVE TO A "TOUCH"

STABLE

DRIFT-FREE

CONO AIR PRESSURE REGULATOR

The Cono Precision Regulator is ideal for "dead-end," or small volume flowing service. Responsive to setting changes as small as *five thousandths psi.* Holds set pressure regardless of vibration or normal upstream pressure variations. Streamlined design, all brass and stainless steel. Styles for flush panel or line mounting. Available in ¼" pipe size, in a variety of spring ranges from 0-5 to 0-125 psi.

BULLETIN PH-10.

CONOFLOW CORPORATION
2100 ARCH ST.
PHILADELPHIA 3, PA.

Cono Controls

CC-115

▲ For more details circle **NED-940 C3** on enclosed inquiry slip ▲

for LOWER COST *Materials Handling*

Whether you figure by years of use or by tons handled, BAL tote boxes cost less because they last longer. They're *hard* vulcanized fibre, built to last!

Easy to handle, hard to wear out; and double-strength at ALL reinforcements. Trucks as well as tote boxes made in many sizes for various purposes.

TRUCKS & TOTE BOXES

"BAL" BUILT WITH A CONSCIENCE

WILLIAM BAL CORPORATION
11 Johnson Street, Newark 5, N.J.

▲ For more details circle **NED-941 C3** on enclosed inquiry slip ▲

Meet code requirements with

T & B INSULINERS

protect cables where they need it most

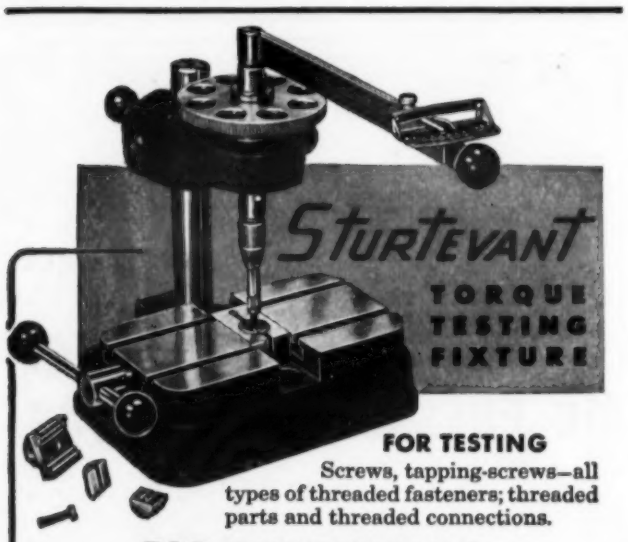
Ideal for both new or old work, T & B Insuliners prevent cable abrasion due to burred or unevenly cut conduit or E.M.T. Made of specially-processed fibre, they insulate any outlet.

Patented T & B Insuliner sleeves slip over cable and snap easily into non-insulated bushings, connectors or nipples—no tools are needed. Available for conduit sizes ½" to 6". Spring tension holds Insuliner firmly in place. Deep body groove locks behind lip of fitting and guards against accidental removal. Long skirt shields conduit end and provides a smooth, insulated interior surface even if the conduit is burred, uneven, or a little too short.

For lower installation costs and faster inspection approval, make it a point to standardize on T & B Insuliners. For complete details send for Data Sheet H2. T 314

THE THOMAS & BETTS CO.
Incorporated
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

▲ For more details circle NED-942 C3 on enclosed inquiry slip ▲



FOR TESTING
Screws, tapping-screws—all types of threaded fasteners; threaded parts and threaded connections.

FOR MANUFACTURERS
DESIGNERS
INSPECTORS
TOOL ENGINEERS
LABORATORIES and for
PRODUCT CONTROL
in assembly.

Capacities: (0-200 in. lbs.) or (0-150 ft. lbs.)

Write for Bulletin TTP

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

▲ For more details circle NED-943 C3 on enclosed inquiry slip ▲

M&M
GIANT KEYSEATERS

M & M Giant Keyseaters, built in a wide range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems today.

MITTS & MERRILL 68
1000 South Water • SAGINAW, MICH.

▲ For more details circle NED-944 C3 on enclosed inquiry slip ▲

New Literature & Catalogs

Motor & Control Renewal Parts

Complete-Reading Electric Co.—314-page fully-indexed "Renewal Parts Manual No. 512" lists over 23,000 parts, supplies, tools and equipment related to the repair and maintenance of electric motor and control apparatus in ratings from 1/100 to 100 hp. This useful reference is offered free to qualified personnel of industrial concerns customarily maintaining all or part of their own electrical apparatus.

▲ For more details circle NED-945 C3 on enclosed inquiry slip ▲

Heavy Duty Industrial Trucks

Elwell-Parker Electric Co.—Heavy duty ram and fork trucks with capacities from 12,000 to 60,000 lb are subject of illustrated brochure. Features of machines which afford means for handling heavy or bulky loads are outlined.

▲ For more details circle NED-946 C3 on enclosed inquiry slip ▲

End-Grain Laminated Plastic

Formica Co.—End-grain type laminated plastic materials for bearing surface applications are covered in two illustrated 4-page folders 328 and 325. Former shows advantages of this material as ways for planers, milling machines, boring mills and similar machine tools. Installation instructions are contained in second folder.

▲ For more details circle NED-947 C3 on enclosed inquiry slip ▲

Air Control Valves

Ross Operating Valve Co.—12-page illustrated booklet 101A explains characteristics and advantages of air power. Integral pilot operated, remote controlled and direct operated valves which can be modified for wide range of control functions are described in detail.

▲ For more details circle NED-948 C3 on enclosed inquiry slip ▲

Handling Truck Comparison Charts

Lewis-Shepard Products, Inc.—Comparison charts for riding type high lift and low lift electric trucks and walkie low lift and high lift electric trucks are available for comparison purposes. They permit an objective point-by-point comparative analysis of various makes of trucks.

▲ For more details circle NED-949 C3 on enclosed inquiry slip ▲

Rolling Doors

Kinnear Mfg. Co.—Wide variety of steel, wood and grille-type rolling, folding and sliding doors is described and illustrated in 32-page bulletin No. 75. All doors can be motorized and serve various purposes in both new and existing structures. Design features, specifications, general data and diagrams are included in this comprehensive booklet.

▲ For more details circle NED-950 C3 on enclosed inquiry slip ▲

Welding Accessories

A. O. Smith Corp., Welding Div.—Complete line of welding accessories, a new product series of this company, is described and illustrated in this 16-page catalog. Company now offers "package buying" of both welding equipment and accessories.

▲ For more details circle NED-951 C3 on enclosed inquiry slip ▲

Crank Pin Grinder

Landis Tool Co.—26-page well-illustrated catalog N-52 describes the type DH crank pin grinder for precision grinding of crankshafts on a production basis. Its 45 illustrations and sketches show design details, typical applications and operating controls.

▲ For more details circle NED-952 C3 on enclosed inquiry slip ▲

Uses of Purifiers

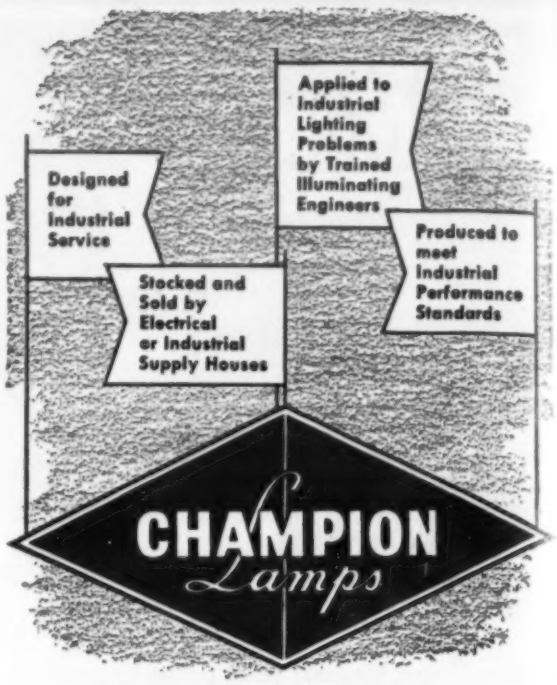
V. D. Anderson Co., Purifier Div.—"End Dirt and Moisture Problems the Hi-eF Way" is title of 8-page booklet which describes uses of purifiers or mechanical separators to clean up moisture, mist, dirt particles and other entrainment in pipelines and equipment. Cutaway views show purifier installations in fourteen different applications, while descriptive material tells the purpose of the purifier.

▲ For more details circle NED-953 C3 on enclosed inquiry slip ▲

Self-Priming Pump

Carver Pump Co.—Easy to carry by one person, model KN1½L self-priming pump can handle 6000 gph at 17-ft suction lift against 17-ft total head. It primes in less than 30 seconds with pump 10 ft above water. This pump is described, and illustrated, too, in 4-page bulletin 151.

▲ For more details circle NED-954 C3 on enclosed inquiry slip ▲



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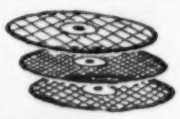

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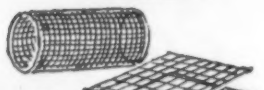

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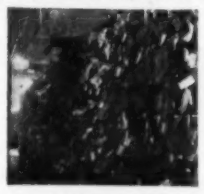

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Sectional view Class DV Double Seated Diaphragm Control Valve

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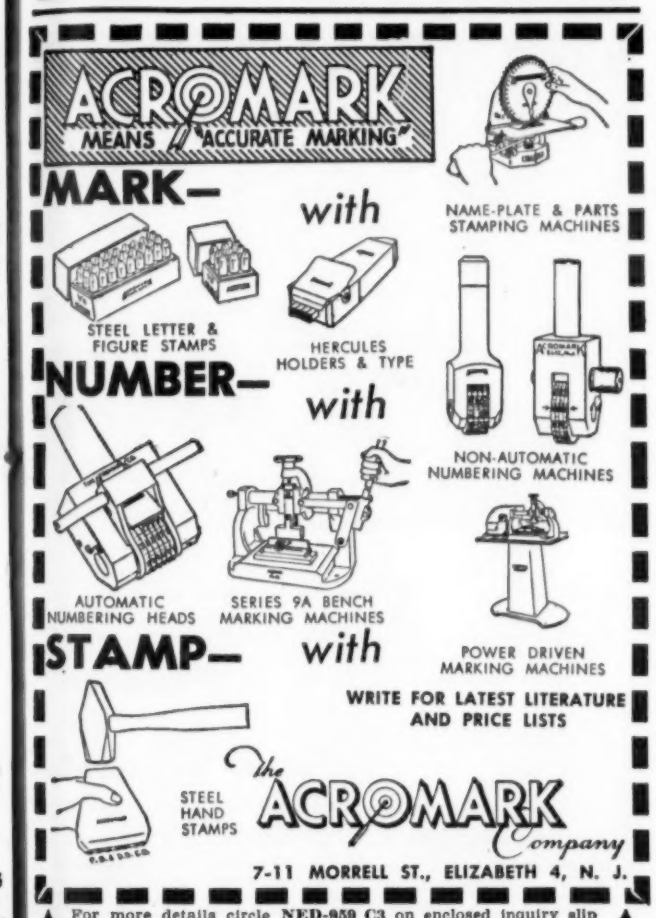

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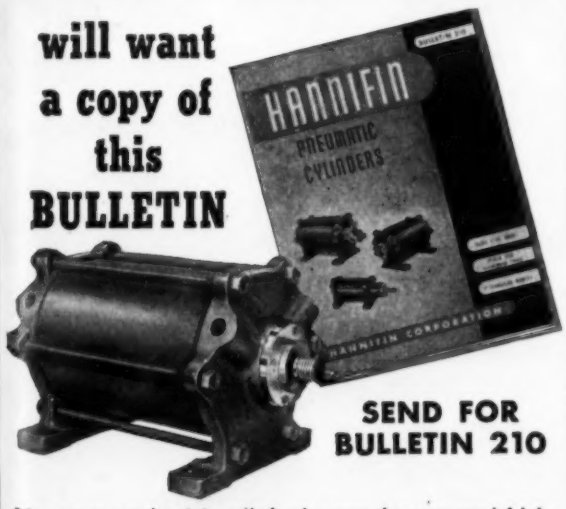

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It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big handbook on PNEUMATIC CYLINDERS. 49 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 6 standard mountings . . . many combination mountings . . . adjustable cushions at either or both ends . . . 2 types of pistons . . . bores to 16". Exclusive construction features assure trouble-free, efficient operation. Send for Bulletin 210. Hannifin also builds custom cylinders in quantity to special design. *Bring us your cylinder problems.*

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New Processes & Materials

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Volatile solvents in Prufcoat sealer P-25M have little effect on conventional oil paints or vinyl asphalt, coal tar and gilsonite coatings, including mastics. Consisting of selected synthetic resins and combination of leafing-type metallic pigments, sealer forms an effective barrier film over all surfaces which might otherwise be lifted or wrinkled by active solvents in other synthetic resin coatings. Where it is desired to paint over mastic type coatings in keeping with desired color schemes, including white, sealer serves to prevent bleeding, lifting or staining. Formulated by **Prufcoat Laboratories, Inc.,** 50 E. 42nd St., New York 17, N. Y.

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FLUORESCENT DISPLAY LACQUER six colors in pressurized spray cans

Unlimited sign and display applications are possible with Spray-Glo daylight fluorescent lacquer available in 11-oz aerosol type spray container. Lacquer adheres readily to wood, paper, glass and metal. Because it is concentrated, only small amount is needed to be effective. Fire Orange, Saturn Yellow, Rocket Red, Arc Yellow, Signal Green and Neon Red are available colors. An undercoater for use on colored surfaces is also available. Made by **Craftint Mfg. Co.,** 1610 Collamer Ave., Cleveland 10, O.

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METAL FORMING LUBRICANT forms dry protective film

When applied to metal prior to forming and allowed to dry, Drawcote lubricant forms a dry, protective and lubricating film. Once coated, stock can be stored for long periods, then used as desired without reapplication of additional lubricant. Application can be by dipping in hot aqueous solution, spraying or flowing solution evenly over surface. Being dry, lubricant eliminates oil films, smut, etc. in subsequent painting or vitreous enameling processes. It reinforces the coarse tooth and protects porosity of enamel stock for easy forming, cleaning, drying and enameling without further treatment. Shipped as powder in wooden barrels ready for mixing with water, lubricant has no fumes, is odorless and noninflammable. Formulated by **Gilron Products Co.,** Dept. D, 6007 Euclid Ave., Cleveland 3, O.

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McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

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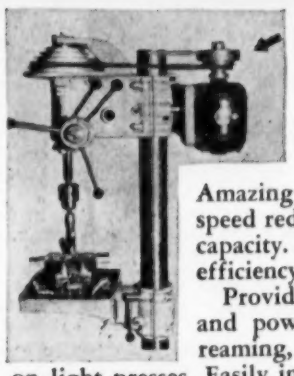
New **"PULL-GEAR" SPEED-REDUCING PULLEY Increases Drill Press Capacity**



Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approximately 45 to 2000 RPM. Write for literature.

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New Sani-Driers eliminate ALL this needless expense! They provide fast, efficient hand or hair drying service 'round the clock . . . *quickly pay for themselves out of savings!* Approved by Underwriter's Laboratories.

Write for new illustrated literature! Semi-recessed model shown above. Wall and pedestal models also available.

Distributors In All Principal Cities

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"Dependable Since 1897"
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NOW . . . You can choose the RIGHT Industrial Work Glove for EACH Job . . .

by using the handy Hood Performance Chart

Chart shows comparative wear and chemical resistance of Hood Neoprene, Rubber and Plastic Coated Gloves; catalog contains eleven more pages of illustrations and description of Hood Industrial Gloves; the choice for *every* job in *any* industry.

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Watertown, Mass.

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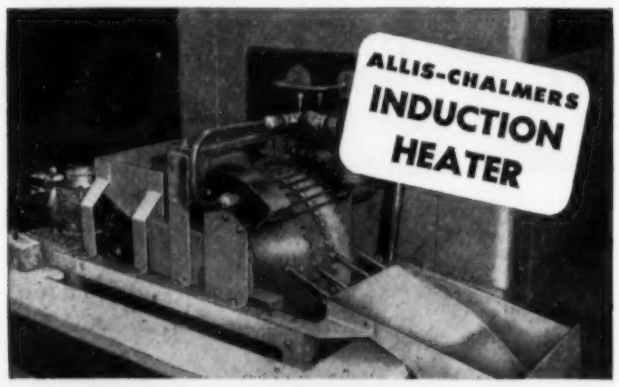

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This same heater can be used for brazing, soldering, annealing, as well as case and through hardening.

High production, plus versatility, plus low operating cost make the Allis-Chalmers induction heater an important time and money saver. Find out what it can do for you. Call your nearby Allis-Chalmers district office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3976

ALLIS-CHALMERS

For more details circle **NED-972 C3** on enclosed inquiry slip

New Literature & Catalogs

Coupling or Converter?

Twin Disc Clutch Co.—So that you might better understand the application of hydraulic couplings and torque converters, this company is making available a 32-page special issue of Production Road entitled "Coupling or Converter?" It "boils down" the engineering jargon on hydraulic transmission of power and uses layman's terminology to acquaint the reader with the meanings and characteristics of torque. Illustrations and text explain why a hydraulic coupling transmits only input torque, while a hydraulic torque converter multiplies torque.

For more details circle **NED-973 C3** on enclosed inquiry slip

Multiunit Control Centers

Allen-Bradley Co.—Unit dimensions, some typical applications and an explanation of the purpose and construction of multiunit control centers are contained in 28-page illustrated bulletin 798. A pattern for planning a control center and how to order are features of the bulletin.

For more details circle **NED-974 C3** on enclosed inquiry slip

Roller Gear Drives

Ferguson Machine & Tool Co., Roller Gear Div.—Literature contained in portfolio on "Ferguson Roller Gear Drivers" includes 4-page folder on a self-locking indexing unit for punch press dials; 4-page bulletin 101 which tells how drives increase machine capacity; 4-page bulletin 103 which contains drawing, plus drive and dimensional data; 6-page bulletin on how to select a roller gear drive; and the latest price list.

For more details circle **NED-975 C3** on enclosed inquiry slip

Sling Chain Selection

McKay Co., Chain Div.—Various types of sling chains and the attachments which may be used on single, double, triple and multiple slings for lifting any given load are identified on this sling chain selection chart. Specifications and other data, including working load limits on all types are recorded. Back contains tips on chain care and affords space for recording sling performance.

For more details circle **NED-976 C3** on enclosed inquiry slip

Stainless Surface Finishing

Armco Steel Corp.—Third in series of wall charts covering fabricating and finishing of stainless steel is 25 x 38-in. chart which pictures and describes principal steps in weld bead finishing. Photos show how to get best results in surface finishing. Table lists operation sequence, wheel speeds, abrasives and lubricants for grinding and polishing.

For more details circle **NED-977 C3** on enclosed inquiry slip.

Centrifugal Pumps

Pioneer Pump & Mfg. Co.—Line of Pioneer and Rollway centrifugal pumps for coolants, cutting oils and other fluids are illustrated with numerous line drawings and photos of typical installations on many machine tools. Motor mounting brackets, self-priming auxiliaries and separate tank units are shown.

For more details circle **NED-978 C3** on enclosed inquiry slip

Steel & Brass Wood Screws

Southern Screw Co.—Technical information of a general nature that will aid in planning, use and ordering of steel and brass wood screws with either Phillips or slotted head styles is given in 12-page manual. Other data include recommendations for boring pilot holes, holding power in various woods and specifications of flat, round, oval and special head styles. Back features decimal equivalent chart.

For more details circle **NED-979 C3** on enclosed inquiry slip

Carboloy Permanent Magnets

General Electric Co., Carboloy Dept.—Packaged lot prices of cast and sintered permanent magnets, ground, unground and either magnetized or not magnetized are listed in 8-page price list PM-110. Many available shapes adapt to needs of small users.

For more details circle **NED-980 C3** on enclosed inquiry slip

Induced Draft Units

American Machine & Metals, Inc., DeBothezat Fans Div.—Bifurcator induced draft fans to provide controlled draft for boilers and furnaces at all times are the subject of 8-page illustrated bulletin DB-32-52. Twenty-four sizes are available with wheel diameters from 12 to 36 in. Motor is in an isolated chamber in divided housing and is protected from gases and high temperatures.

For more details circle **NED-981 C3** on enclosed inquiry slip

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CIRCLE TEMPLATE

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ONE OF MORE THAN 30 RAPIDESIGN TIME-SAVER TEMPLATES—ALL OF WHICH ARE BETTER MADE, MORE USEFUL AND LESSER PRICED.

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This is a typical materials handling job designed, fabricated, and lettered by C-D-F. Low-cost, lightweight Diamond Fibre was used. Fibre is strong, oil resistant, and can be readily formed. All work was done in the same C-D-F plant that made the fibre . . . one order solves your worries.

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NEWARK 30 DELAWARE

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Pulsating Neoprene panels move the contents, not the bin . . . prevent arching and funneling, eliminate noise, save bin repairs, permit closed tops. PneuBin succeeds where other devices fail! Write for free "Flow Stoppage Report" form. A product of GEROTOR MAY CORP., Baltimore 3, Md. . . . manufacturers of

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PLIERS HANDPIECE for "sweat" soldering joints in copper tubing, piping and large electrical terminals. It is used with the basic GLO-MELT Power Unit where ground connections are inconvenient or where heat of two carbons is required. Sturdy, lightweight — made of aluminum and tough fibre. Ideal tool for plumbers, refrigeration and motor repair shops!

Basic GLO-MELT Power Unit is rated at 450 Watts. 24 separate heats. Uses 115 V. 60 cycle power source.

Panel Accessory for production line soldering of small parts held across the gap of 2 carbon tips.

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126 W. CASS ST. • JOLIET, ILLINOIS

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Why? Because it's a heavy-duty grease that works well in hot, cold or wet locations—adheres to metal—resists moisture, oxidation, and high temperatures! A multi-purpose grease that meets more needs than any other solid lubricant.

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HIGH TEMPERATURE INSULATION is thin, flexible and lightweight

All class H requirements are met by Electro Sil-Thin-Glas 0.002 and 0.003-in., as well as Sil-Thin-Bestos 0.003 to 0.0035-in. high temperature insulations. They are thin, flexible and lightweight for compact construction of electronic and electrical equipment. Available in roll, sheet or tape form, both products are recommended for coil and relay insulation, layer and barrier insulation for transformers and coil wrappings for fields and stators. Made by **Sun Chemical Corp.**, Electro-Technical Products Div., 113-A E. Centre St., Nutley 10 N. J.

▲ For more details circle NED-988 C3 on enclosed inquiry slip ▲

ASBESTOS & GLASS FIBER PACKING improved for greater resiliency

Greater resiliency has been imparted to ordinary white braided asbestos packing by construction employing braided or twisted core of Teflon impregnated glass fiber over which are braided several jackets of quality asbestos yarn, also impregnated with Teflon. Improvement is most pronounced on high speed centrifugal acid pumps where solid braided packing has a tendency to heat up because of its lack of resiliency. Packing is almost rubber-like in the large sizes and has great acid resistance. Made by **Flexrock Co.**, 3603 Filbert St., Philadelphia 4, Pa.

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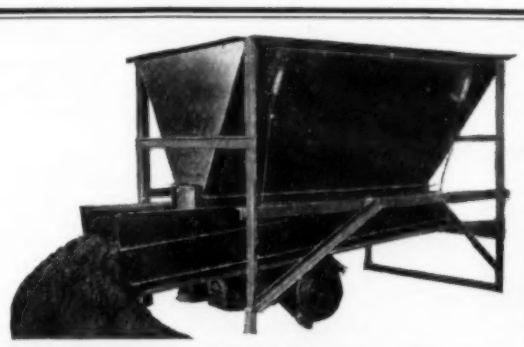
INSULATING VARNISH for high speed rotating equipment

No. 140 electrical insulating varnish is applicable to equipment where high speeds and/or intense vibration normally would cause wire movement and result in electrical failures. Mechanical strength is good, even at class B temperatures. It resists oils, chemicals and moisture, and has good electrical properties, plus long storage and dip tank life. Naphtha can be used for thinning. Made by **Irvington Varnish & Insulator Co.**, Dept. NED, 6 Argyle Terrace, Irvington 11, N. J.

▲ For more details circle NED-990 C3 on enclosed inquiry slip ▲



If you use bin-stored materials you can handle them better with a Simplicity Os-A-Veyor type bin feeder

If you move anything that can be stored in a bin, chances are a Simplicity Os-A-Veyor type bin feeder will cut handling costs and speed up your operations. Simplicity Bin Feeders practically eliminate bridging and stoppage because they feed from the full length of the bin—materials will flow as you need them. Simplicity bin feeders are ideal, too, for storing and moving materials that are improved by tempering. Simplified power and operating mechanism keeps maintenance costs low, makes servicing easy. Write us today for complete information.

Simplicity ENGINEERING CO., DURAND, MICH. 101

▲ For more details circle NED-991 C3 on enclosed inquiry slip ▲

NEW DODGE-TIMKEN ALL-STEEL PILLOW BLOCKS

Rugged! Compact!

BEARINGS for industry's *toughest jobs*. High radial and thrust capacities. Stamina for heavy shock loads. All-steel construction that packs this load-carrying capacity into less weight and less space than ever before. A joint engineering development by Dodge and Timken. Write for details and delivery dates or call your Dodge Distributor.

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DODGE of Mishawaka, Ind.

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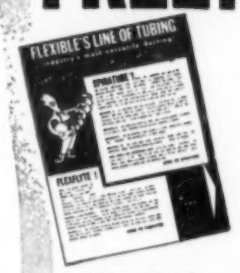
FREE! Every Maintenance Engineer should have this booklet



Illustrated booklet that deals with your problems . . . how they can be solved quickly and efficiently with this amazing flexible ducting. Ventilation, dust removal, materials handling . . . whatever your requirements, FLEXIBLE's line of tubing will meet them better, cost less. And most important, YOU CAN INSTALL FLEXIBLE'S LINE OF TUBING YOURSELF!

WRITE TODAY!

Flexible Tubing CORPORATION
Guilford, Connecticut Pasadena 1, California

For all ducting systems: FLEXFLYTE® SPIRATUBE® AYRTUBE®

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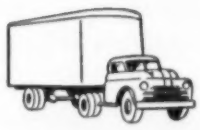
"... like working a double crew on each job!"



Labor-Saving Motorola multiplies efficiency, safety and service on many industrial jobs!

Motorola 2-way radio provides vital contact with mobile crews . . . cuts travel time . . . boosts *productive* man-hours . . . reports equipment breakdowns. Eight exclusive features make Motorola your greatest 2-way radio value. For full details, call your local Motorola engineer, or write to Dept. 2-86 NE.

Motorola 2-Way Radio

Motorola® Communications & Electronics, Inc.
A SUBSIDIARY OF MOTOROLA, INC.
900 N. Kilbourn Ave., Chicago 51, Illinois
Rogers Majestic Electronics Ltd., Toronto, Canada

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TAL PORTABLE BENDERS

Complete ALL Piping Jobs FASTER

SAVE ON

- Number of Fittings
- Elbows & Couplings
- Cutting, Threading
- Overall Costs

Install pipe & conduit *faster* at *lower cost* by reducing up to 80% the number of fittings or elbows and couplings otherwise needed. Save on cutting and threading. You can with a Tal, because Tal Portable Benders make any degree bend up to 180° in a SINGLE OPERATION WITHOUT SHIFTING THE PIPE.

No guesswork for offsets, long sweeps or any other bends. No experience necessary to make accurate, wrinkle-free bends right on the job. *No spoilage.* Bend indicator assures identical repeat bends without measuring. Learn today how you can earn more money and handle more jobs with a Tal bender.

COMPLETE LINE OF BENDERS
For pipe up to 8 inch.
For copper and thinwall tubing.
6 Way Hickeys—lifetime guarantee.

WRITE FOR THIS FREE BULLETIN.

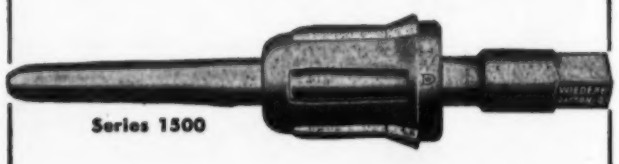
Tal Bender, Inc. Dept. 4 Milwaukee 2, Wis.

For more details circle NED-995 C3 on enclosed inquiry slip

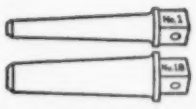
You'll Get More Efficiency with

Series 1500

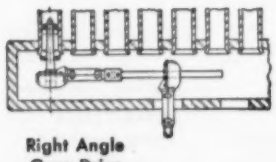
Tube Expanders



Series 1500



Short Mandrels



Right Angle Gear Drive

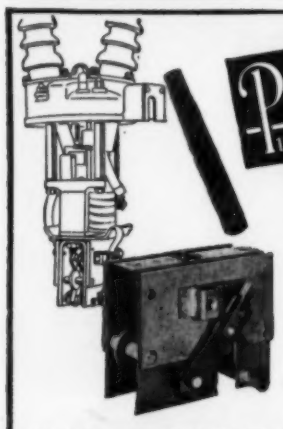
For installation and maintenance of tubes in drums, headers and similar water tube boilers.

A combination of short mandrels and right angle gear drive speeds up operation and assures efficiency with far less operator-fatigue. The new and smaller reinforced gear drive enters most hand-holes.

See Your Dealer or Write Us Today!

THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

For more details circle NED-996 C3 on enclosed inquiry slip



PHENOLITE Laminated PLASTIC

contributes to an improved product—in the Kyle Automatic Oil Circuit Recloser

The Kyle Products Plant of the Line Material Company selected Phenolite for the stringers and the contact frame of their Recloser because Phenolite is a good insulating material with great mechanical strength and is unaffected by oil. This application is typical of the use of Phenolite in the electrical field.

National Laminated Plastics
nationally known—nationally accepted

NATIONAL VULCANIZED FIBRE — A tough, horn-like material with high dielectric strength. Excellent machinability. Sheets, Rods, Tubes, Special Shapes.

PHENOLITE Laminated PLASTIC — Good electrical insulating material with great mechanical strength; moisture resistant. Sheets, Rods, Tubes, Special Shapes.

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware — Offices in Principal Cities
Since 1873

For more details circle NED-997 C3 on enclosed inquiry slip

New Literature & Catalogs

Locking Fasteners

Simmons Fastener Corp.—36-page illustrated catalog 1252 outlines design features, applications and specifications for various Simmons fasteners for electrical, railroad, aviation, building and furniture uses, among others. Included are Dual-Lock for butt joint fastening, Quick-Lock for many uses, Spring-Lock blind fastener, Roto-Lock butt joint panel fastener for sandwich type materials and Link-Lock for container sealing.

For more details circle NED-998 C3 on enclosed inquiry slip

Electrical Tapes & Products

Minnesota Mining & Mfg. Co.—Described and illustrated in 12-page booklet are Scotch plastic electrical tapes Nos. 21, 22 and 33 for use in industrial wiring, underground cable splicing and other heavy duty applications, and Scotch glass cloth electrical tape No. 27 with thermosetting adhesive. Also covered are Scotchlok electrical spring connectors for splicing, Scotchfil electrical insulation putty and Scotchkote electrical coating.

For more details circle NED-999 C3 on enclosed inquiry slip

Oil Testing Equipment

Fisher Scientific Co.—Extensive line of Fisher/Tag equipment for petroleum testing is described in illustrated catalog No. 53 of 40 pages. Included are Saybolt Chromometer, Cleveland open-cup flash point tester, Pensky-Martens closed-cup flash point tester, Tel-meter and others such as asphalt softening-point apparatus and Zahn viscometer. General information on each is given, along with prices.

For more details circle NED-1000 C3 on enclosed inquiry slip

Wire Thread Inserts

Heli-Coil Corp.—How stainless steel wire thread inserts in tapped holes can improve products and reduce production cost are related in 8-page booklet 660. It discusses design, production, marketing and maintenance advantages offered by this method of thread protection. Photos show applications in products such as engines, furnaces and impact tools.

For more details circle NED-1001 C3 on enclosed inquiry slip

Dumb-Waiters

D. A. Matot, Inc.—Features incorporated in hand and electric powered dumb-waiters are found in 8-page bulletin 32a/Ma. Complete specifications for the line, which includes a wide variety of models, are given. Various hatchway layouts are shown, as are accessories and three types of brakes.

For more details circle NED-1002 C3 on enclosed inquiry slip

Abrasive Metal Walkway Surfaces

American Abrasive Metals Co.—Abrasive metal safety stair treads, thresholds, floor plates and elevator sills made of Feralun, Alumalun, Bronzalun and Nicalun are described and illustrated in 12-page brochure AB-512. These walkway surfaces consist of matrix of cast metal with rough aluminum oxide grains to provide non-slip grip even when wet or oily.

For more details circle NED-1003 C3 on enclosed inquiry slip

Materials Handling Engineering

The Industry Educational Committee of the Material Handling Institute, Inc., has made available for 50 cents 12-page booklet No. 2 which presents 32 fundamental principles of material handling engineering. It also deals with methods of analyzing material handling problems and offers one such analysis by a visual flow process chart. Write to: Materials Handling Institute, 1108 Clark Bldg., Pittsburgh 22, Pa.

For more details circle NED-1004 C3 on enclosed inquiry slip

Milling & Boring Cutters

Ingersoll Milling Machine Co.—72-page illustrated catalog No. 60 CC is the latest edition dealing with inserted blade milling and boring cutters for all makes of equipment. New material includes carbide milling of steel, proper selection of tools, cutting methods and cutter grinds for all kinds of work.

For more details circle NED-1005 C3 on enclosed inquiry slip

Wire Handling Devices

HyKon Mfg. Co.—General information, specifications and prices on the following devices are contained in this 8-page illustrated catalog; wiring, extension cord and store room reels; wire meters, joist boring machine; and a reel lift. All are for more efficient handling of wire products.

For more details circle NED-1006 C3 on enclosed inquiry slip

IT'S SO EASY! to SHARPEN SMALL DRILLS

Black Diamond PRECISION DRILL GRINDER

- INDUSTRY'S FIRST CHOICE
- SIMPLE TO OPERATE
- PRECISION RESULTS
- LOW-PRICED

Write to:
BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

For more details circle NED-1007 C3 on enclosed inquiry slip

Dependable Power

Sarkes Tarzian "Centre-Kooled"

PATENTS NO. 2618692 & 2620394

SELENIUM RECTIFIERS

Embedments A recent "first" in the industry, Sarkes Tarzian embedments offer the advantages of hermetically sealed rectifiers at a fraction of the size, weight and cost. *Please write, wire or phone for complete information on all types of Sarkes Tarzian Selenium Rectifiers.*

SARKES TARZIAN, Inc., Rectifier Division
Dept. W2, 415 N. College Ave., Bloomington, Ind.

For more details circle NED-1008 C3 on enclosed inquiry slip

Your Old Friends have a NEW name Now... Specify Republic STEEL BOXES and SKIDS

● You've known and used them for years. You've learned to prefer them for their enduring strength and rigidity in all types of load-bearing and load-carrying service. Now they come to you under a new name . . . "Republic". Simply substitute this famous name for the former "Truscon" name in specifying and ordering. Write for illustrated literature describing the complete line of Republic Steel Boxes and Skids available for use with trucks, crane or hand-operated units.

Type PB-120 box and platform unit.

Type PB-120T box and platform unit with tiering lugs.

Type PB-130 removable box unit with corner stacking brackets.

PRESSED STEEL DIVISION
REPUBLIC STEEL CORPORATION
6206 TRUSCON AVE. • CLEVELAND 27, OHIO

For more details circle NED-1009 C3 on enclosed inquiry slip

Now you can have an oscillating/inclinable pump that will give long trouble-free service!

NUGENT Inclinable or Oscillating Pumps for Oiling Systems

900 hours of continuous operation oscillating through the full 60° angle against a pressure of 200 lbs. without showing any leakage around the ball joint! That is the result of a test conducted on a Nugent Inclinable or Oscillating Pump. The pump may be actuated by almost anything that moves—a crosshead pin, an eccentric, the end of a rotating shaft. Will work freely without binding, leakage or undue wear even on an uneven surface.

Write for complete details and descriptive literature.

Wm. W. Nugent & Co., Inc.
421 N. Hermitage Ave. CHICAGO 22, ILLINOIS
Est. 1897

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

For more details circle NED-1010 C3 on enclosed inquiry slip

BOLTS & CAP SCREWS
SOCKET, SET & CAP
NUTS, WASHERS
MACHINE SCREWS
SHEET METAL SCREWS
WOOD SCREWS
PIPE FITTINGS

WRITE, WIRE or PHONE FOR YOUR CATALOG Today

- Class 3 Screws
- AN Drilled Fillister Heads
- AN WASHERS
- Studs, Standard & Special
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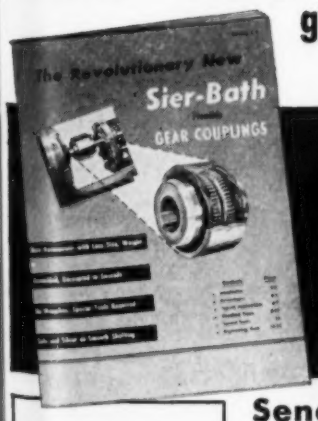
Star STAINLESS SCREW CO.
ARmory 4-1240
214 Union Avenue • Paterson 2, N. J.
Direct New York Telephone: WIsconsin 7-9041

For more details circle NED-1011 C3 on enclosed inquiry slip

NEW 16-page CATALOG gives all the facts on the



REVOLUTIONARY
Sier-Bath
Flexible
GEAR COUPLINGS

Illustrates These Sier-Bath Advantages:
- 3/5 Usual Size, 1/2 Usual Weight
- Assembled, Uncoupled in seconds!
- Slash assembly costs, down-time

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Gives design explanation, advantages, application . . . complete technical data on all types . . . engineering information, etc. Standard types (below) sizes 7/8 to 6, HP 4 to 600 per 100 RPM. Special types, sizes to order. Ask your Distributor, Representative, or write us.

Sier-Bath GEAR and PUMP CO., Inc.
9240 Hudson Blvd., North Bergen, N. J.
Established 1905 Member A.G.M.A.

Also manufacturers of Precision Gears, Screw and Gear Pumps

For more details circle NED-1012 C3 on enclosed inquiry slip

New Processes & Materials

ANTISEIZING LUBRICANT will not melt at over 600° F

Seizing and galling at bearing pressures of well over 100,000 psi encountered in machine tools, automatic production machines and other operations, can be prevented with Molylube Anti-Seize. Product is concentrated molybdenum disulfide compound which will not melt at temperatures above 600° F. Homogenizing, plus use of synthetic additives makes it possible for lubricant to remain in suspension longer than dry molybdenum disulfide when mixed in machine and cutting oils. Product is available in cartons of 6 or 12 three-ounce tubes, or in 24-oz cans. Made by **Bel-Ray Co.**, Green Village Rd., Madison, N. J.

For more details circle NED-1013 C3 on enclosed inquiry slip

RUBBER TRANSMISSION BELT features rayon fabric construction

Greater strength and flex life and less stretch than cotton fabric belts are claimed for Drivesall rubber transmission belts made with all rayon fabric. Strength is reportedly result of rayon filaments which are formed in continuous lengths. Belts are considerably thinner than those made with same number of cotton plies and flex easier over small diameter pulleys. They are designed for use on medium duty drives for fans, blowers, air compressors, pumps, machine tools, crushers, mills and machinery used in printing, paper, oil and rubber industries. Made by **B. F. Goodrich Co.**, Dept. E, 500 S. Main St., Akron 18, O.

For more details circle NED-1014 C3 on enclosed inquiry slip

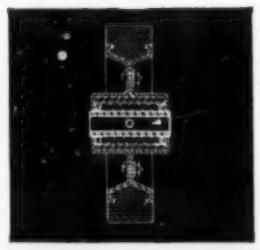
Aluminum Extrusions

Precision Extrusions—Over 4000 standard extruded aluminum shapes, rods, bars and tubing available from company without additional die service are cataloged in 98-page wire-bound book. Five major divisions with 35 subdivisions covering structural shapes, architectural shapes, furniture moldings, standard moldings and tubing are featured. Physical properties and recommended applications for 14 most generally used alloys are charted.

For more details circle NED-1015 C3 on enclosed inquiry slip

Tube Talk THE "HOW-TO" COLUMN

PROBLEM: To find suitable material for spacer bushing of rubber-tired, steel-disc truck wheels made by Jarvis & Jarvis, Inc., Palmer, Massachusetts. Former tubing used did not have uniformly smooth surface, was hard to clean off and a source of bearing trouble.



SOLUTION: MT 1015 Carbon Steel Seamless Cold-drawn Tubing, supplied by Superior Tube Company, provided smooth surface required, plus close temper control for machining.

RESULT: Bearing troubles completely cleared up since adoption of Superior tubing. Jarvis & Jarvis also reports Superior tubing easy to cut, chamfer and drill, and "technical help from Superior distributor excellent."

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

For more details circle NED-1016 C3 on enclosed inquiry slip

This low-cost, portable pump will MOTORIZE your hydraulic equipment

Eliminate costly hand pumping: This electrically-driven pump serves one or more rams. Production zooms — sometimes it triples. Great on presses, pipe benders, etc. Write for catalog. Buy from leading supply houses.

Blackhawk Mfg. Co., Dept. P-1433
Milwaukee 1, Wis.

- P-182 Pump (above) combines motor, valves, pump and oil reservoir in one compact unit.
- 10,000 p.s.i. hydraulic pressure. Weight—only 84 lbs.
- Low cost —

BLACKHAWK

For more details circle NED-1017 C3 on enclosed inquiry slip

Drill holes faster ...more accurately WITH A **KELLER** AIRFEEDRILL

The Airfeedrill is a fully automatic pneumatic drill that operates through a complete drilling cycle by simply pressing a control valve. It brings big savings in production costs.

Accurate holes without costly fixtures

Entirely air-controlled and operated

Easily shifted from job to job

Attaches in any position, at any angle

Pneumatic cycling to speed production

Drills metal, wood, composition, plastics

Used in close centers, and in tight places

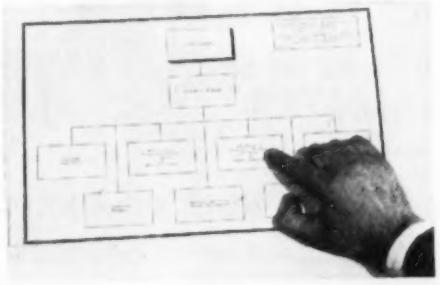
KELLER TOOLS

Send for illustrated descriptive bulletin . . . "The Hole Story"

Keller Tool Company
GRAND HAVEN, MICHIGAN

For more details circle NED-1018 C3 on enclosed inquiry slip

ORGANIZATION PLANNING AIDED BY CHART-PAK



Big or not so big, a sound organization requires sound planning. The first step in organization planning is to develop an organization chart.

The CHART-PAK Method makes it easy for you to make and revise your own organization charts.

With the CHART-PAK *Method you have:*
- **CONVENIENCE**—you or your assistants can make charts.
- **SPEED**—simply type in information and assemble.
- **FLEXIBILITY**—you can change any portion at any time.
- **NEATNESS**—"Draftsman drawn" components are accurately printed. Photographic reproductions cannot be distinguished from charts drawn by draftsmen.

CHART-PAK also provides complete materials for making curve line and columnar charts, office and industrial layouts.

ATTACH TO YOUR LETTERHEAD
Please send me free information on
☐ organization charts ☐ office layouts
☐ curve line and columnar charts ☐ industrial layouts
104-X Lincoln Ave., Stamford, Conn.

CHART-PAK, INC. 104-X LINCOLN AVE. STAMFORD, CONN.

For more details circle NED-1019 C3 on enclosed inquiry slip

TAKE A TIP FROM THE LEADERS

INSTALL VIKING
Fuel and Lube
Oil Pumps

FIG. 212-GEAR DRIVE

The use of Viking Rotary Pumps by many of the leaders in the industrial fields is your assurance of dependable, efficient pumping.

FOR THE JOB REQUIRING:
Fast, self priming — Smooth, even flow
Capacities ½ to 1050 gpm — Pressures to 200 psi

Handling all types of Petroleum products from LP-gas to fuel oils, lube oils and tars, there you will find Vikings specified and successfully used.

VIKING AN HONORED NAME IN PUMPING

Ask for folder 535G today. It's your tip for good, efficient pumping.

Viking PUMP COMPANY Cedar Falls, Iowa
See Our Catalog in SWEETS

For more details circle NED-1020 C3 on enclosed inquiry slip

New! RELAYS HERMETICALLY SEALED

SOLENOID CONTACTORS

(200 Ampere)

For the first time sealed solenoid contactors may be completely assembled, tested, adjusted and inspected before sealing. They meet or exceed all MIL-R, AN, JAN and will pass proposed MIL-R tests. Can be constructed to operate in ambient temperature up to 120° C and withstand 50 G shock. Wired from top for accessibility. New Bulletin describes interchangeability, special insulation features. Write.

Series 595 D.C. Relay

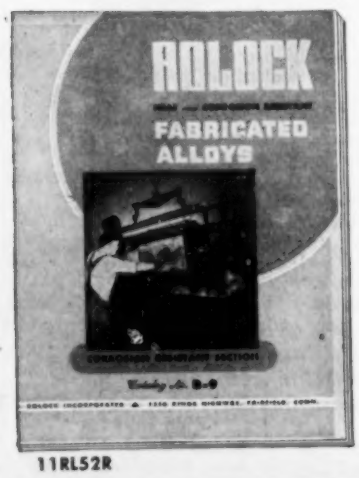
Guardian is equipped to *hermetically seal* a vast variety of relays to meet the most exacting military and industrial applications. If your application calls for expert *hermetic sealing*, we invite you to consult Guardian.

GUARDIAN ELECTRIC
1626-C W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

For more details circle NED-1021 C3 on enclosed inquiry slip

ROLOCK
FABRICATED ALLOYS
HEAT AND CORROSION RESISTANT

NEW and COMPLETE . . .



specialized reference on Pickling, Degreasing, Galvanizing and other processing operations. Baskets, Manual and Motor-powered Barrels . . . Trunnion, Centrifugal, Bottom-dumping Baskets, Shell Case containers.

• • •

Send for this No. B-9 Corrosion Resistant Section of Rolock's catalog . . . just off the press. It's full of valuable ideas.

11RL52R

ROLOCK, INC.
1412 KINGS HIGHWAY, FAIRFIELD, CONN.

For more details circle NED-1022 C3 on enclosed inquiry slip

New Literature & Catalogs

Automatic Magnetic Elevator

Prab Conveyors, Inc.—Operational features, construction details, cross-sectional drawings and photographs of the Magnavator, a completely automatic elevator for handling small parts magnetically are found in 8-page catalog 300.

For more details circle NED-1023 C3 on enclosed inquiry slip

Wire Mesh Conveyor Belts

Cambridge Wire Cloth Co.—140-page revised catalog entitled "Cambridge Conveyor Belts" is actually a reference manual of wire mesh belt design. It gives data on uses for wire mesh belts with photos and flow sheets, on selection of belt specifications, conveyor design, belt drive mechanisms and tabular metallurgical data.

For more details circle NED-1024 C3 on enclosed inquiry slip

Evaporative Condenser

Baltimore Aircoil Co.—Illustrated with many drawings and charts, 18-page publication on "B.A.C. Evaporative Condenser" has two parts. Part I covers the theory, selection and installation of evaporative condensers, while Part II is in itself a manual on evaporative condenser maintenance.

For more details circle NED-1025 C3 on enclosed inquiry slip

Manufacturing Abroad

Netherlands Industrial Institute—Opportunities for American industry to participate in the metalworking field in the Netherlands are described in 20-page illustrated booklet. Information is given on the availability of raw materials and on the estimated potential markets for various fields of endeavor.

For more details circle NED-1026 C3 on enclosed inquiry slip

Air Tube Handling Systems

Lamson Corp.—"On Target" is interesting title of 50-page booklet 442 which pictures and describes many uses for Airtube pneumatic conveyor systems in industrial and commercial enterprises. Booklet points out that with plants spreading out and paper work increasing, advantages of a fast, efficient paper handling and communication system are greater than ever. Full data on carrier types, dimensions and basic operation are given.

For more details circle NED-1027 C3 on enclosed inquiry slip

Automatic Nailing Machine

Auto-Nailer Co.—Practically any product made of nailable material can be assembled fast, easily and economically with the Auto-Nailer which cuts its own nails from knurled wire and drives them at speeds up to three nails per second. With machine, nails can be started for easy driving by hand, or they can be driven straight, bradded or clinched as desired. Nails from ¼ to 1½ in. long are formed and driven automatically.

For more details circle NED-1028 C3 on enclosed inquiry slip

Rust Preventives, Lubricants & Packings

E. F. Houghton & Co. products meeting various Government specifications are listed in 16-page revised booklet. Classifications are rust preventives, lubricants, cutting oils, metalworking aids, and leather and synthetic rubber products. One section is the Government Preservative Compound Chart containing descriptive and application details of P-1 to P-17 preservatives.

For more details circle NED-1029 C3 on enclosed inquiry slip

Hydraulic Spring Units

Wales-Strippit Corp.—Detailed in 4-page illustrated bulletin SH are series 500 Hydra Springs which utilize compressible hydraulic fluid to produce spring pressures up to 3800 lb. These units are especially adaptable for stripping actions in all types of dies.

For more details circle NED-1030 C3 on enclosed inquiry slip

Radio & Electronic Equipment

David Bogen Co.—24-page illustrated catalog "Electronics for Audio-Radio-Television" deals with complete equipment and components in this field. Sound and intercommunication systems for commercial and industrial use are described.

For more details circle NED-1031 C3 on enclosed inquiry slip

Safety Goggles & Face Shields

Pulmosan Safety Equipment Corp.—A new line of safety goggles, spectacles and face shields for protection from chipping, grinding, impact, welding dusts and chemicals is described in illustrated catalog.

For more details circle NED-1032 C3 on enclosed inquiry slip

INCREASE PRODUCTION EFFICIENCY...
with FINGER-TIP CONTROL
LOVEJOY variable SPEED PULLEYS

A turn of the hand is all that is required for instant speed adjustment on your machinery. Changes in production schedules, operator speed correction or specification variations are accomplished without loss of time or labor. Sizes from fractional to 8 h.p. Ratios from 3 to 1.

WRITE TODAY for fully illustrated catalog and engineering manual

LOVEJOY FLEXIBLE COUPLING CO.
5003 W. Lake Street Chicago 44, Illinois
Also Mfrs. of Lovejoy Universal Joints and Lovejoy Flexible Couplings

For more details circle NED-1033 C3 on enclosed inquiry slip

KILL moisture absorption with DESPATCH "ROD" DRYING OVENS

For all types of baking, drying and ageing
★
Ovens can be decked—2-4-6 units
★
Automatically controlled—set it and forget it
★
Mesh shelving for total heat circulation
★
Conveniently portable for entire shop use

Electrodes in storage tend to pick up moisture—particularly low hydrogen, stainless steel and non-ferrous types. Despatch "WRD" Welding Rod Ovens provide lots of storage room in 10 spacious compartments and do a thorough, steady, dependable dehydrating job. *Specifications:* Outside dimensions—18" x 19" x 18". Max. Temp. 550° F; 1500 Watts; 250 lbs. rod capacity. *Write for Bulletin.*

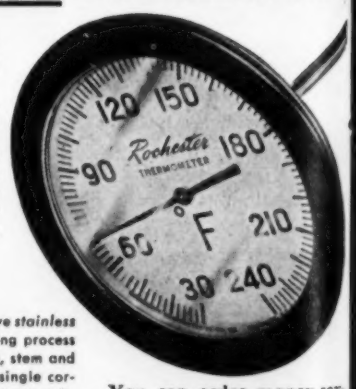
DESPATCH OVEN CO. Established in 1902
325 DESPATCH BUILDING
MINNEAPOLIS 14, MINNESOTA

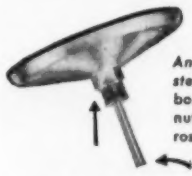
For more details circle NED-1034 C3 on enclosed inquiry slip

Can you afford to be without corrosion-resistant thermometers?

Production errors caused by thermometer failures can be mighty costly.

The corrosion-resistant, pressure-tight construction of Rochester dial thermometers saves you this sort of expensive trouble. And it practically doubles the life of the thermometer under severe operating conditions.





An exclusive stainless steel welding process bonds case, stem and nut into a single corrosion-resistant unit.

RECALIBRATE ON THE JOB

• Rochester dial thermometers are built to stay accurate under rough treatment. But if an unusually hard blow knocks the pointer out of adjustment, you can recalibrate it quickly and easily by turning a single screw.

You can order money-saving Rochester thermometers from one of our specialized instrument representatives listed in Sweet's Catalog or the yellow pages of your telephone directory. Or write us direct for further details. ROCHESTER Manufacturing Company, Inc., 114 Rockwood Street, Rochester 10, New York.

MILLIONS of Rochester Dial Thermometers are now delivering dependable service

Rochester MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS . GAUGES . AMMETERS
ROCHESTER DEPENDABLE ACCURATE GAUGES

For more details circle NED-1035 C3 on enclosed inquiry slip

NOW! Accurate Level Control with NO Maintenance!

Photoswitch Electronic Liquid Level Controls have no vacuum tubes — no floats — no moving parts to wear out. So you are sure of accurate level indication and control . . . maintenance-free for unlimited life. Electrolysis is eliminated — probe voltage is less than ½ volt A.C.

UNIVERSAL: pump up — pump down — low level — high level! Two probe rods are suspended into a tank or vat of any size. For a typical pump-up operation: When liquid level falls below lower probe, the control switches on pump motor; when liquid touches upper probe, control shuts off motor. Learn more about this money-saving process control — write for Liquid Level Control Bulletin NA 3.

PHOTOSWITCH INCORPORATED
77 Broadway, Cambridge 42, Mass.
Offices in all principal cities

For more details circle NED-1036 C3 on enclosed inquiry slip

IMITATED . . . NEVER DUPLICATED
7 in 1 LESTO ELECTRIC HAND SAW

RIP
SCROLL
BAND
JIG
CROSSCUT
COPING
KEYHOLE

Cuts inside holes without drilling a starting hole.

For Fastest Cutting of soft and hard wood, soft metal, bone, plastics, hard rubber, cement sheets, pressed wood, etc.

Cuts 2" Wood Beams

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.
VICTOR J. KRIEG, Inc.
Sole U. S. Representative for Scintilla, Ltd. Switzerland
611 Broadway, New York 12, N. Y. GRamercy 7-5757
Some Sales Territories Available

For more details circle NED-1037 C3 on enclosed inquiry slip

HOW TO CUT YOUR MAINTENANCE COSTS on

★ Connecting slip-joint pipe
★ Lifting motors, shafts, gears
★ Pulling up conveyor belts
★ Moving machinery
★ Changing batteries

The portable, ever-so-handy LUG-ALL Winch Hoist weighs less than 10 pounds, but handles dozens of heavy maintenance jobs, saving money and saving man-hours. Thousands in use.

Just imagine—the LUG-ALL lifts 3,000 pounds a distance of 5 ft. It lifts, lowers or pulls 1,500 pounds for ten feet. In "tight" places the LUG-ALL works better than any hoist you've ever used.

Made of rust-resistant materials and has oiled-for-life bearings. Should repairs ever be necessary, they can easily be made on the job with simple tools.

Pulley block permits working around corners and as close as 10 inches. No brakes to slip. 20" safety handle will bend before the hoist is dangerously overloaded. Every LUG-ALL is factory pre-tested and guaranteed for one year.

$35.25 FOB Factory
IMMEDIATE DELIVERY

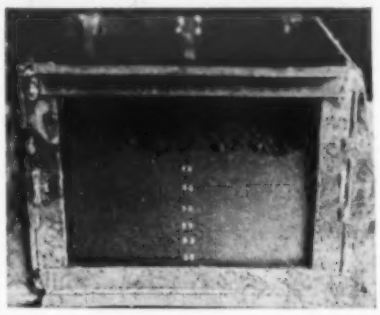
Write for FREE copy of newly published Bulletin #116 containing 15 "How-to-Hoist" illustrations and information on other LUG-ALL Hoists and accessories.

THE LUG-ALL COMPANY
WYNNEWOOD 6, PENNA.

For more details circle NED-1038 C3 on enclosed inquiry slip

New Processes & Materials

FOUNDRY SAND RESIN improves workability, flowability



Clay balls can be eliminated from foundry sand and cleaner castings can be produced through use of Lustrex 886. A resin, it improves sand workability, flowability and packability, resulting in smooth mold surfaces and elimination of most cracks, fissures and soft spots. One pound of the material produces uniform clay distribution in 1 ton of foundry sand. Only about one-sixteenth of the resin is burned out each time the sand is used. Made by **Monsanto Chemical Co.**, Plastics Div., Dept. NED, Springfield 2, Mass.

For more details circle NED-1039 C3 on enclosed inquiry slip

SOLDER PASTE-FLUX is "painted on" to reduce waste

Application speed is increased and waste is minimized when "paint-on" type Eutec-Tin-Weld solder-flux combination is used. It can also be used as a tinning compound in paste form for all tinning operations. Compound consists of a lead-tin solder that is premixed in paste form with the flux. Product has a capillary flow similar to silver solder and strength equal to lead-tin solder. Flux residue can be rinsed off with water. Application is by brush, spatula or dip for use with torch, furnace or soldering iron to join all metals except aluminum and magnesium. Made by **Eutectic Welding Alloys Corp.**, Dept. P, 172nd St. & Northern Blvd., Flushing 58, N. Y.

For more details circle NED-1040 C3 on enclosed inquiry slip

Solenoid Pilot Air Valve

Valvair Corp.—Air, vacuum, oil, water and inert gases are some of the fluids that can be controlled by the Valvair solenoid pilot valve described in 4-page illustrated bulletin PB. Coils are available for various voltages of direct and alternating current. Orifice sizes range from 1/16 to ⅛-in. in direct pipe connection and manifold models.

For more details circle NED-1041 C3 on enclosed inquiry slip

WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

Bends standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in., as well as standard weight pipe up to 3 in. dia. Also solid mild steel bars up to 2 in. dia.

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

Single and double plunger types, with reservoirs of different capacities for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

9-0-9

Send for your copy of Bulletin A-5 . . . It's Free.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

For more details circle NED-1042 C3 on enclosed inquiry slip

ENAMELSTRIP
STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

assures a **perfect finish before fabricating**

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

For more details circle NED-1043 C3 on enclosed inquiry slip

control problems ??

VERSA VALVES will solve them . . .

Pedal type, four-way shown. Treadle type for full foot support also available.

. . . in ANY application.

From over 1000 standard combinations there is a type and size to suit every compressed air and low pressure water-, or oil-hydraulic valve need. Hand, foot, cam, air or hydraulic pilot actuation for two-, three-, or four-way types in ⅛, ¼, ⅜ and ½ NPT sizes.

. . . in a MODERN way.

For appearance and compactness VERSA VALVES are absolutely unequaled. Functionally designed to do a job, they have no dangerous, dirt-storing projections. For comparison, the height in all sizes is less than 2 inches, and the width for ⅛ and ¼ sizes is 2 inches; for ⅜ and ½ sizes is 2¾ inches. Lengths vary with type but they all require less space AND you get honest PIPE SIZE FLOW.

. . . EASILY and DEPENDABLY.

VERSA VALVES are engineered and quality produced to give millions of cycles of trouble-free performance. VERSA'S exclusive anti-extrusion arrangement of all kinetic "O" Ring Seals "babies" them into giving impressively long, air-tight service. Installation is simplified by easily accessible mounting holes and a flat mounting surface arranged to clear all connections.

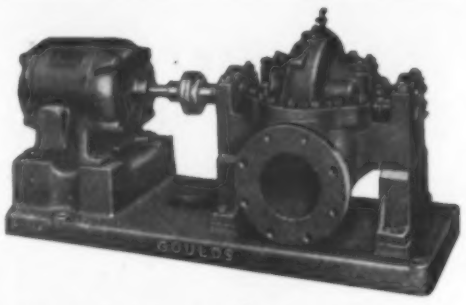
. . . and at LOWER COST.

First cost is lower. Also, maintenance cost is lower because one spool assembly is the only moving valve part. This assures you of long-time, attention-free performance. When service is required, any VERSA VALVE can be completely disassembled with an ordinary screw driver without disturbing pressure line connections.

SEND FOR YOUR FREE CATALOG

VERSA
PRODUCTS COMPANY, INCORPORATED
249 SCHOLES STREET BROOKLYN, NEW YORK

For more details circle NED-1044 C3 on enclosed inquiry slip



The new Goulds Fig. 3405 double suction, single-stage centrifugal pump for general purpose liquid handling.

This new pump gives you 5 big cost advantages

1. Interchangeability of parts (1) increases flexibility in making field changes to meet different requirements; (2) simplifies spare parts inventories.
2. Completely new design incorporates many quality features usually considered as "extras."
3. Compact construction means real floor-space savings.
4. Stuffing box flexibility permits quick interchange of packing box with gland or mechanical seal, as your service requires.
5. You can change impeller rotation from right-hand to left-hand without construction changes.

Bulletin 721.6 gives you complete details, including Specs, interchangeability tables, efficiency curves.

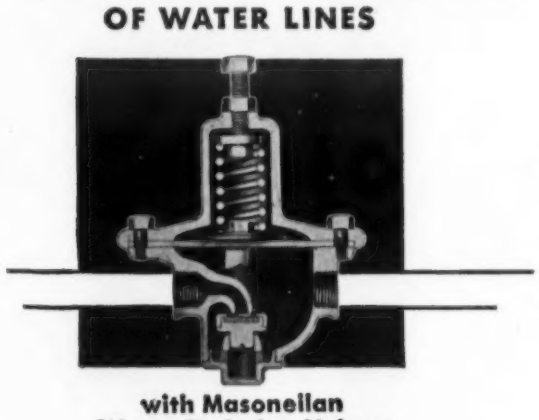
Goulds PUMPS INC. Seneca Falls New York

For more details circle NED-1048 C3 on enclosed inquiry slip

STOP DESTRUCTIVE

VIBRATION

OF WATER LINES



with Masoneilan Water Reducing Valves

By maintaining uniform industrial or domestic water pressures, this compact, sturdy reducing valve not only reduces destructive strain on plumbing, but also stops "singing" and splashing from fixtures — without cutting down flow. Lasts for years with practically no maintenance.

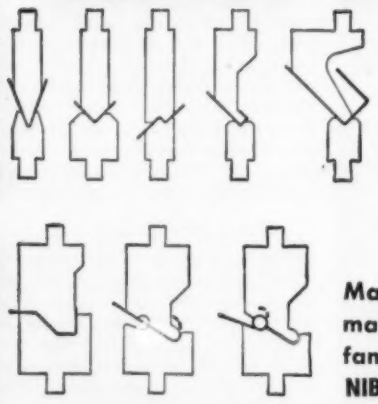
Initial pressures up to 150 lbs., reduced to any pressure from 10 to 100 lbs. Sizes from ¼" to 2".

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1189 Adams St., Boston 24, Mass., U. S. A.

For more details circle NED-1049 C3 on enclosed inquiry slip

BRAKE DIES



MADE FROM CHISEL FORGED STEEL BILLETS

Made by the makers of the famous SEMCO NIBBLER PRESS

- MANY STILL IN USE EVEN AFTER 10, 20 and even 30 YEARS.
- THEY COST MORE BUT THEY LAST FOR YEARS.

Write for Estimates on Your Work and Ask for Latest Literature

SEMCO SERVICE MACHINE COMPANY INCORPORATED
202 MILLER STREET, ELIZABETH, N. J.

For more details circle NED-1050 C3 on enclosed inquiry slip

New Literature & Catalogs

Tools for Every Purpose

Cornwall Quality Tools Co.—126 pages of descriptions and specifications on a complete line of high quality tools comprise illustrated catalog No. 28. Available to users and specifiers of hand tools, this manual covers pliers, wrenches, screw drivers, sockets and socket sets, holders and hundreds of other types of tools used to assemble, disassemble, maintain, repair or service equipment, machines and facilities. You wouldn't believe there were so many hand tools and accessories if you didn't see it.

For more details circle NED-1051 C3 on enclosed inquiry slip

Floor Tile

Flintkote Co., Tile-Tex Div.—12-page illustrated catalog "Tile-Tex Products" contains color charts and application data on Tile-Tex asphalt tile, Tuff-Tex flooring, Vitachrome and Flexachrome flooring, and Mura-Tex wall tile. Of particular interest is Tuff-Tex greaseproof industrial flooring which is designed for use in machine areas to provide clean, bright, colorful floors, requiring high impact resistance and safe walking surface.

For more details circle NED-1052 C3 on enclosed inquiry slip

Finned Coils

Kennard Corp.—Expressly designed for air conditioning applications, finned direct-expansion, water, steam and steam distributing tube coils are detailed in 36-page illustrated bulletin BC-1. Fabricated from ⅝ or ¾-in. seamless copper tubing, coils have tubes spaced on 1½-in. centers and 8 fins per in. in smaller size and on 2-in. centers with 6½ or 8 fins per in. on larger size. Both handle Freon, water or steam.

For more details circle NED-1053 C3 on enclosed inquiry slip

Heating, Air Conditioning, Refrigeration

Worthington Corp.—"Equipment for Buildings and Institutions" is title of bulletin WP-1099-B27M which contains condensed information on sizes, dimensions, capacities and ratings and features of a variety of products. Included are air conditioning and refrigeration products with auxiliaries; oil, gas and dual fuel engines; deaerators and deaerating heaters; water conditioners; steam turbines and turbine generators; liquid meters; centrifugal, regenerative turbine and vertical turbine pumps; and multi-V-drives. It has 20 pages and is illustrated.

For more details circle NED-1054 C3 on enclosed inquiry slip

Power Transmission Equipment

Browning Mfg. Co.—A complete line of power transmission equipment including fractional horsepower V-belts and sheaves, rigid and flexible couplings, multiple sheaves and V-belts, and pulleys are cataloged in 16-page bulletin GC-101-A. Also described is simplified bushing system which applies to entire range of sheaves, couplings, pulleys and sprockets.

For more details circle NED-1055 C3 on enclosed inquiry slip

WEDGE-WIRE Kleenslot SCREEN GUARDS
(PAT. APPLIED FOR)

LONGER LIFE! Particularly adaptable for use at the discharge end of flumes. The guard is built right into the screen to keep the larger lumps of material above the guard bars permitting only the finer particles to pass over the screen. Precision made.

ECONOMY!! They are non-clogging, non-blinding, strong, rigid, uniform and consequently more economical in the long run.

SEND FOR OUR ILLUSTRATED CATALOG

Wedge-Wire CORPORATION
5604 CLARK AVE. CLEVELAND 2, OHIO

For more details circle NED-1056 C3 on enclosed inquiry slip

SAMSON PLATE, ANGLE and BAR SHEAR

(Bench Type)

- All Steel Construction • Easy Operation
- Unbreakable Frame

NEW No. 5RP7

$179.00

f. o. b. New York (subject to change)

IMMEDIATE SHIPMENT

CAPACITY	
Sheets and Plate	¼"
Flats	⅜" x 3"
Rounds	⅝"
Squares	½"
Angles and Tees	2" x 2" x 3/16"

Catalogue of Metal Working Equipment furnished on request.

JULIUS BLUM & CO., Inc.
Established 1910
536 West 22nd St., New York 11 • WAtkins 9-7042

For more details circle NED-1057 C3 on enclosed inquiry slip

E-Z CODES *the Different wire markers*

with SPEED TABS

Easier, Faster, Safer to Apply Prevent Marker Spoilage

Any E-Z Code pressure-sensitive wire marker can be quickly removed from any part of the card, yet unused markers are always fully protected whether card is kept in pocket or constantly handled. Fingers never touch the adhesive, never lessen its ability to stick Only E-Z Codes, with exclusive Speed Tabs, provide this easier, faster application, prevent marker spoilage.

Use E-Z Codes to mark wires, leads, circuits, relays, parts, etc., to increase production . . . guarantee accuracy . . . effect economy . . . assure permanent coding.

SEND FOR FREE SAMPLE AND DETAILS TODAY! WRITE DEPT. NED3

WESTLINE *Products • Division of Western Lithograph Co.*
600 East Second Street, Los Angeles 54, California

For more details circle NED-1058 C3 on enclosed inquiry slip

REDUCE COSTS ON "SMALL-WORK" GRINDING & FINISHING JOBS with

Foredom FLEXIBLE SHAFT MACHINES

YOU GET ALL these features superior

- Feather-weight, finger-tip-controlled handpiece (pencil size or larger) which eliminates operator fatigue.
- Choice of 5 handpiece types (all instantly interchangeable). You fit the handpiece to the job at hand.
- Extra good flexing qualities in the flexible shaft assembly for effortless maneuverability.
- Longer motor life because motor is not dwarfed to fit the hand.
- High speed which does not drop precipitately under load.
- Silencer-equipped flexible shaft for vibration-free performance.

BENCH OR HANG UP MODELS FOR HEAVY OR LIGHT DUTY

Also flexible shaft tools attachable to your own drill press or motor

Use Foredoms to GRIND, POLISH, DRILL, ROUT, CARVE, MILL, SAW, SLOT, CLEAN, SAND, ETCH, ENGRAVE, etc., etc.

Write for Catalog 5263

FOREDOM Electric Co., Dept. 5263, 27 Park Place, N.Y. 7, N.Y.

For more details circle NED-1059 C3 on enclosed inquiry slip

EYE SHIELDS
one piece clear plastic in four sizes

Clear plastic eye shields are not new, but it is news that these eye shields are now available in sizes large enough to fit over even the largest prescription glasses.

Eye shields like these are popular with industrial workers wherever the eyes need protection against dust or flying particles. Because of the demand for eye shields of the larger size, the Sellstrom Manufacturing Company now offers these shields in four sizes: 39-A, 4¾″ lens; 39-B, 5″ lens; 39-C, 5½″ lens; 39-D, 6″ lens.

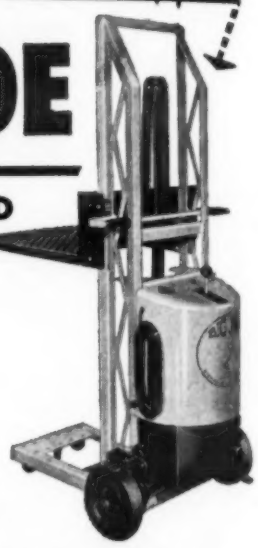
The 5½″ lens is claimed large enough to accommodate even the largest shell rim eye glasses, but the 6″ lens is offered for those desiring extra roominess. The 5″ and 5½″ are in greatest demand.

These eye shields have a 92½% optical clarity by laboratory test. Extremely light weight and very comfortable. Permit wide vision as an extra protection against accidents. Manufactured by **Sellstrom Manufacturing Company**, 654 North Aberdeen Street, Chicago 22, Illinois. *Advt*

▲ For more details circle **NED-1060 C3** on enclosed inquiry slip ▲

Put Your "Problem Loads" Here

BIG JOE*

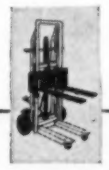


BATTERY OPERATED Hydraulic LIFTS

Provide effortless lifting of 1000-lb. loads as high as 80″ and easy movement between tailgate, shelf, machine or tier. Forks optional. Prices from $587.50 f o b Chicago.

MANUAL MODELS

Tool Capacity 750 lbs. Prices from $236.50



Distributors in Principal Cities

Write for Specifications on All Models.

*T. M. REG. IN U. S. PAT. OFF.

Let BIG JOE do it!

BIG JOE MANUFACTURING COMPANY
908 W. Jackson Blvd. • Chicago 7, Illinois

▲ For more details circle **NED-1061 C3** on enclosed inquiry slip ▲

Sheehan's SPECIALIZED CONVEYORS

THREE VARIABLE PLANES!

SPEED PRODUCTION OF HOT OR COLD PARTS

This unusual Metal Belt Conveyor by Sheehan is in wide use in the Automatic Bolt and Nut fabricating industry. It adapts to a wide range of positions for particular jobs.

Small parts can be unloaded into the center of large tote boxes. Two horizontal planes plus the vertical rise can be adjusted to fit production needs.

Heavy duty, high carbon steel woven mesh belt is uneffected by hot forgings! Belt is driven by Sheehan Positive Drive Spiked Pulley. It eliminates any slippage due to heat expansion or lubricants. Top of metal belt at loading end is only 8″ from floor.

Efficient design and rugged construction make these conveyors outstanding! There's a Sheehan Conveyor to solve your transfer problem.

Complete literature and specifications on request. Write or wire today!

See SHEEHAN'S STANDARD CONVEYORS at the Materials Handling Show, May 18th - 22nd, Convention Hall, Philadelphia Booth 809

Conveyors
R. T. SHEEHAN CO.
PLYMOUTH, MICH.

▲ For more details circle **NED-1062 C3** on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

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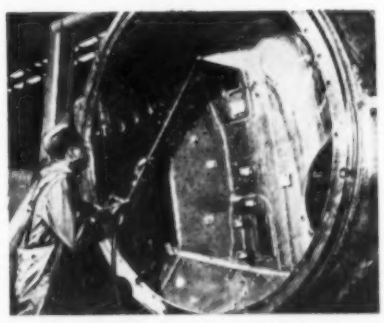
NBP MPA CCA

MARCH, 1953

New Processes & Materials

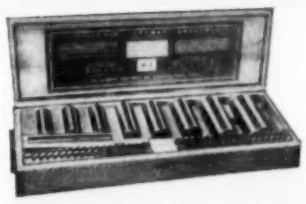
SOLVENT PHOSPHATING CLEANER
used for cold-cleaning operations



In addition to removing grease, tar and chips from ferrous metal, aluminum and zinc, Solo-Phos cleaner also gives a rust inhibitive phosphate coating which is good base for painting. It is applied in concentrated form by spraying, flushing or dipping, using standard equipment. After being allowed to react, it is spray rinsed. Diluted solutions can be used hot or cold in tank or hand washing operations. It does not affect rubber tired wheels, painted or plated surfaces and can be applied over plastic coated parts. Flash point is above 200° F. Made by **Whitfield Chemical Co.,** 14224 Schaefer Highway, Detroit 27, Mich.

▲ For more details circle **NED-1063 C3** on enclosed inquiry slip ▲

CUT YOUR OWN KEYWAYS



with du Mont *Minute Man*®
Keyway Broaches—any size from 1/16″ to 1″ in any bore from ¼″ to 3″

CUT THE COST

with *Minute Man* Broaches you can do the job in one minute for as little as a penny a keyway

CUT THIS COUPON

and declare yourself big dividends in time and money saved

The du MONT CORPORATION, Greenfield, Mass.
MAIL ME FREE CATALOG and PRICE LIST on Minute Man Keyway Broaches and Kits D

Name.....
Company.....
Address.....

▲ For more details circle **NED-1064 C3** on enclosed inquiry slip ▲

PENETRED
DEEP-PENETRATING RESIN-BASE SEALER

TOUGHENS CONCRETE FLOORS
PROTECTS WOOD FLOORS

AVAILABLE IN Colors

Penetred gives floors a colorful, durable, anti-slip surface. Stops dusting of concrete. Stops splintering of wood floors. Resists water, alkalis, chemicals, oils, etc. Beautifies as it protects. Send for details.

EASY TO APPLY
DRIES IN 4 TO 6 HOURS

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
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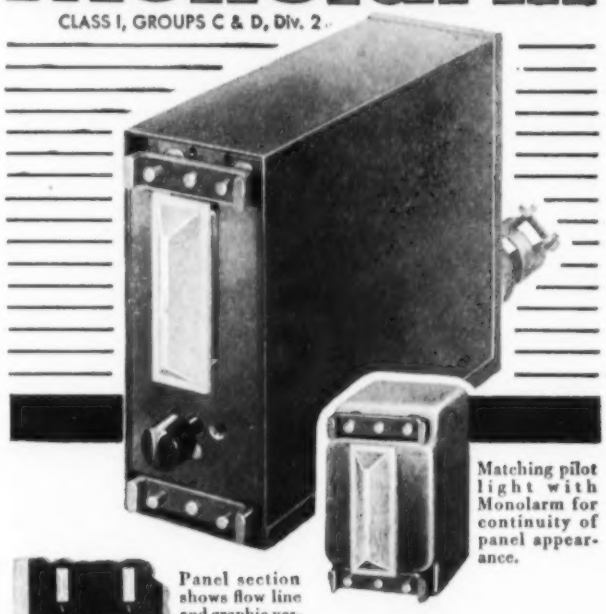
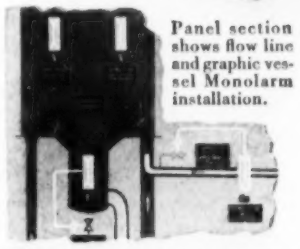
Announcing... R&S

Monolarm®

CLASS I, GROUPS C & D, Div. 2



Matching pilot light with Monolarm for continuity of panel appearance.



Panel section shows flow line and graphic vessel Monolarm installation.

...the Compact signal alarm unit ideal for flow line and graphic panels!

MONOLARM is the safe, reliable signal alarm unit designed for modern panelboards—especially where flow lines and graphic vessels require signal alarms utilizing minimum panel space.

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1. A single narrow bezel and button fits into a flow or graphic line diagram without interrupting the continuity of the design story.
2. Occupies minimum back-of-panel mounting space.
3. Lighting indications in two or three colors on *one* bezel.
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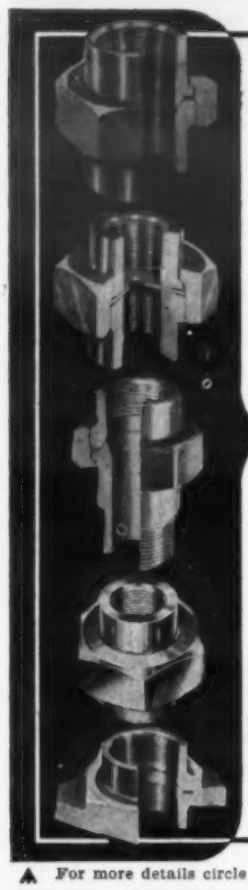

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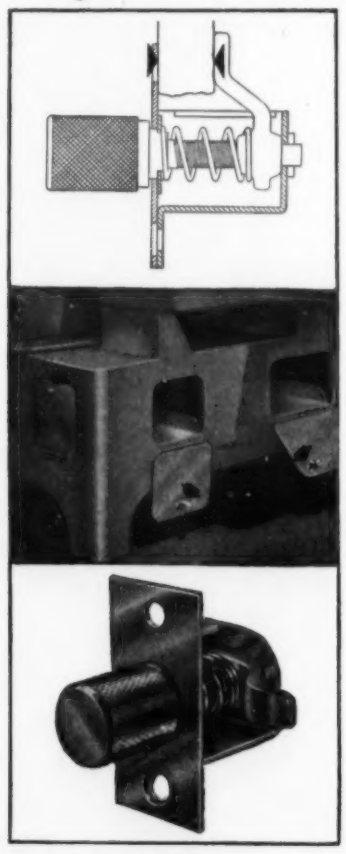

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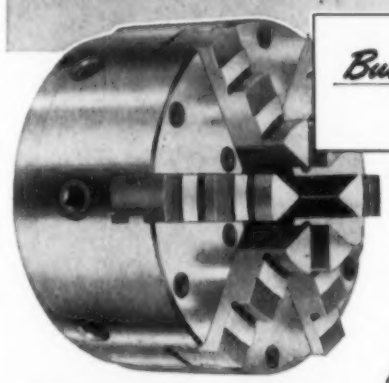

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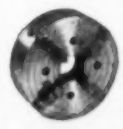

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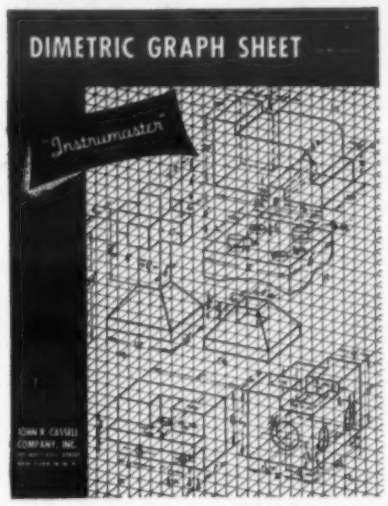

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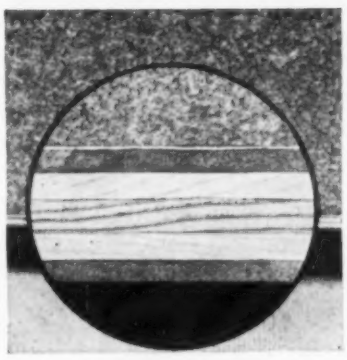

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